

ARCHITECTURAL RECORD

McGraw_Hill
CONSTRUCTION

05

2005

\$9.95 A PUBLICATION OF THE MCGRAW-HILL COMPANIES www.architecturalrecord.com

SANTIAGO
CALATRAVA
GOLD MEDALIST 2005

AIA HONOR AWARDS

Las Vegas Grows Up

ALSO **Special Section: LIGHTING**

TLCFe800H



A bright idea.

A clean, monolithic look. An NRC of 0.85. Easy downward access.
Form and function. Style and substance. Techstyle® Acoustical Ceilings
are sure to make your project shine.



For literature and our email newsletter,
call toll-free 866-556-1235
or visit www.hunterdouglascontract.com

Installation: John and Mary Pappajohn Center
for Higher Education, Des Moines, IA
Architect: Herbert Lewis Kruse Blunck Architecture
4' x 4' panels

TLCe800H

HunterDouglasContract

CEILINGS

© 2005 Hunter Douglas Inc. ® Trademark of Hunter Douglas Inc.
CIRCLE 147 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS



www.weathershield.com/AR

© 2004 Weather Shield Mfg., Inc.

TLCe800H

Sometimes, a spectacular finish is the start of a **GREAT DESIGN.**

Shown here: Anodized dark bronze
aluminum exterior Weather Shield®
casement windows tastefully
coordinated with a matching archtop
transom unit. This is one of seven
anodized colors offered by Weather
Shield. Each provides lasting beauty
that resists chipping or peeling, even
under intense exposure to the sun.
For complete sizing and ordering
information, call **1-800-477-6808**
or visit **weathershield.com/AR**

**CIRCLE 1 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/**



Demand better. Compromise nothing. **Want More™**

Weather Shield® Premium Windows and Doors

English Edge® Pavers

Classic Elegance
and Warmth from



The warmth and elegance
of the English Edge®
series of pavers
makes it at home
in any setting.



Our full line of pavers meets or
exceeds ASTM C902 SX Type 1 PX

Call 1-800-334-8689 to talk to one of the
trained paving specialists on our staff.

English Edge®
AMERICA'S PREMIER PAVER™



Pine Hall Brick Co., Inc.
P.O. Box 11044
Winston-Salem, NC 27116-1044

CIRCLE 2 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

ARCHITECTURAL RECORD

EDITOR IN CHIEF MANAGING EDITOR DESIGN DIRECTOR SENIOR EDITORS

Robert Ivy, FAIA, rivy@mcgraw-hill.com
Beth Broome, elizabeth_broome@mcgraw-hill.com
Anna Egger-Schlesinger, schlesin@mcgraw-hill.com
Charles Linn, FAIA, linnc@mcgraw-hill.com
Clifford A. Pearson, pearsonc@mcgraw-hill.com
Sarah Amelar, sarah_amelar@mcgraw-hill.com
Sara Hart, sara_hart@mcgraw-hill.com
Deborah Snoonian, P.E., deborah_snoonian@mcgraw-hill.com
William Weathersby, Jr., bill_weathersby@mcgraw-hill.com
Jane F. Kolleeny, jane_kolleeny@mcgraw-hill.com
Rita F. Catinella, rita_catinella@mcgraw-hill.com
Sam Lubell, sam_lubell@mcgraw-hill.com
Juan Ramos, juan_ramos@mcgraw-hill.com
Kristofer E. Rabasca, kris_rabasca@mcgraw-hill.com
Clara Huang, clara_huang@mcgraw-hill.com
Randi Greenberg, randi_greenberg@mcgraw-hill.com
Susannah Shepherd, susannah_shepherd@mcgraw-hill.com
Laurie Meisel, laurie_meisel@mcgraw-hill.com
Linda Ransey, linda_ransey@mcgraw-hill.com
Monique Miller, monique_miller@mcgraw-hill.com
Audrey Beaton, audrey_beaton@mcgraw-hill.com
Larissa Babij, larissa_babij@mcgraw-hill.com

PRODUCTS EDITOR NEWS EDITOR PRODUCTION MANAGER DEPUTY ART DIRECTOR ASSOCIATE ART DIRECTOR WEB EDITOR WEB DESIGN WEB PRODUCTION EDITORIAL SUPPORT

EDITORIAL ASSISTANTS

EDITOR AT LARGE SPECIAL CORRESPONDENT COPY EDITOR ILLUSTRATOR CONTRIBUTING EDITORS

SPECIAL INTERNATIONAL CORRESPONDENT INTERNATIONAL CORRESPONDENTS

GROUP PUBLISHER VP, ASSOCIATE PUBLISHER VP, MARKETING AND BUSINESS DEVELOPMENT VP, GROUP EDITORIAL DIRECTOR GROUP DESIGN DIRECTOR MANAGER, RESEARCH DIRECTOR, MARKETING COMMUNICATION DIRECTOR, CIRCULATION DIRECTOR, MULTIMEDIA DESIGN & PRODUCTION MANAGER, ADVERTISING PRODUCTION DIRECTOR, FINANCE DIRECTOR, SPECIAL PROJECTS REPRINTS

James S. Russell, AIA, jamesrussell_editor@earthlink.net
Suzanne Stephens, suzanne_stephens@mcgraw-hill.com
Leslie Yudell
I-Ni Chen
Raul Barreneche, Robert Campbell, FAIA, Andrea Oppenheimer
Dean, David Dillon, Lisa Findley, Blair Kamin, Nancy Levinson,
Thomas Mellins, Robert Murray, Sheri Olson, FAIA, Nancy B.
Solomon, AIA, Michael Sorkin, Michael Speaks, Ingrid Spencer
Naomi R. Pollock, AIA
David Cohn, Claire Downey, Tracy Metz

James H. McGraw IV, jay_mcgraw@mcgraw-hill.com
Laura Viscusi, laura_viscusi@mcgraw-hill.com
David Johnson, dave_johnson@mcgraw-hill.com
Robert Ivy, FAIA, rivy@mcgraw-hill.com
Anna Egger-Schlesinger, schlesin@mcgraw-hill.com
Ellen Halfond, ellen_halfond@mcgraw-hill.com
Chris Meyer, chris_meyer@mcgraw-hill.com
Maurice Persiani, maurice_persiani@mcgraw-hill.com
Brian McGann, brian_mcgann@mcgraw-hill.com
Susan Valentini, susan_valentini@mcgraw-hill.com
Stephen R. Weiss, stephen_weiss@mcgraw-hill.com
Ike Chong, ike_chong@mcgraw-hill.com
Charles Pinyan, cpinyan@mcgraw-hill.com
Reprint Management Services, architecturalrecord@reprintbuyer.com

EDITORIAL OFFICES: 212/904-2594. Editorial fax: 212/904-4256. E-mail: rivy@mcgraw-hill.com. Two Penn Plaza, New York, N.Y. 10121-2298. **WEB SITE:** www.architecturalrecord.com. **SUBSCRIBER SERVICE:** 877/876-8093 (U.S. only). 609/426-7046 (outside the U.S.). Subscriber fax: 609/426-7087. E-mail: p64ords@mcgraw-hill.com. AIA members must contact the AIA for address changes on their subscriptions. 800/242-3837. E-mail: members@aia.org. **INQUIRIES AND SUBMISSIONS:** Letters, Robert Ivy; Practice, Charles Linn; Books, Clifford Pearson; Record Houses and Interiors, Sarah Amelar; Products, Rita Catinella; Lighting and Interiors, William Weathersby, Jr.; Residential, Jane F. Kolleeny; Web Editorial, Randi Greenberg.

ARCHITECTURAL RECORD: (ISSN 0003-858X) May 2005. Vol. 193, No. 05. Published monthly by The McGraw-Hill Companies, 1221 Avenue of the Americas, New York, N.Y. 10020. Periodicals postage paid at New York, N.Y. RCSC and additional mailing offices. Canada Post International Publications Mail Product Sales Agreement No. 40012501. Return undeliverable Canadian addresses to: DPGM Ltd., 4960-2 Walker Road, Windsor, ON N9A 6J3. Email: P64ords@mcgraw-hill.com. Registered for GST as The McGraw-Hill Companies. GST No. R123075673. **Postmaster:** Please send address changes to ARCHITECTURAL RECORD, Fulfillment Manager, P.O. Box 566, Hightstown, N.J. 08520. **SUBSCRIPTION:** Rates are as follows: U.S. and Possessions \$64; Canada and Mexico \$79 (payment in U.S. currency, GST included); outside North America \$199 (air freight delivery). Single copy price \$9.95; for foreign \$11. Subscriber Services: 877/876-8093 (U.S. only); 609/426-7046 (outside the U.S.); 609/426-7087. **SUBMISSIONS:** Every effort will be made to return material submitted for possible publication (if accompanied by stamped, self-addressed envelope), but the editors and the corporation will not be responsible for loss or damage. **SUBSCRIPTION LIST USAGE:** Advertisers may use our list to mail information to readers. To be excluded from such mailings, send a request to ARCHITECTURAL RECORD, Mailing List Manager, P.O. Box 555, Hightstown, N.J. 08520. **OFFICERS OF THE MCGRAW-HILL COMPANIES:** Chairman, President and Chief Executive Officer: Harold McGraw III. Executive Vice President and Chief Financial Officer: Robert J. Bahash. Executive Vice President, Human Resources: David L. Murphy. Senior Vice President and General Counsel: Kenneth M. Vittor. Senior Vice President, Corporate Affairs, and Assistant to the President and CEO: Glenn S. Goldberg. Principal Operating Executives: Kathleen A. Corbet, President, Standard & Poors; Henry Hirschberg, President, McGraw-Hill Education; Scott C. Marden, President, McGraw-Hill Information and Media Services. **MCGRAW-HILL CONSTRUCTION:** Norbert W. Young, Jr., FAIA, President. Vice President and CFO: Louis J. Finocchiaro. **COPYRIGHT AND REPRINTING:** Title ® reg. in U.S. Patent Office. Copyright © 2005 by The McGraw-Hill Companies. All rights reserved. Where necessary, permission is granted by the copyright owner for libraries and others registered with the Copyright Clearance Center (CCC), 222 Rosewood Drive, Danvers, Mass. 01923. To photocopy any article herein for personal or internal reference use only for the base fee of \$1.80 per copy of the article plus ten cents per page, send payment to CCC, ISSN 0003-858X. Copying for other than personal use or internal reference is prohibited without prior written permission. Write or fax requests (no telephone requests) to Copyright Permission Desk, ARCHITECTURAL RECORD, Two Penn Plaza, New York, N.Y. 10121-2298; fax 212/904-4256. For reprints call 800/360-5549 X 129 or e-mail architecturalrecord@reprintbuyer.com. Information has been obtained by The McGraw-Hill Companies from sources believed to be reliable. However, because of the possibility of human or mechanical error by our sources, The McGraw-Hill Companies or ARCHITECTURAL RECORD does not guarantee the accuracy, adequacy, or completeness of any information and is not responsible for any errors or omissions therein or for the results to be obtained from the use of such information or for any damages resulting therefrom.

McGraw Hill
CONSTRUCTION

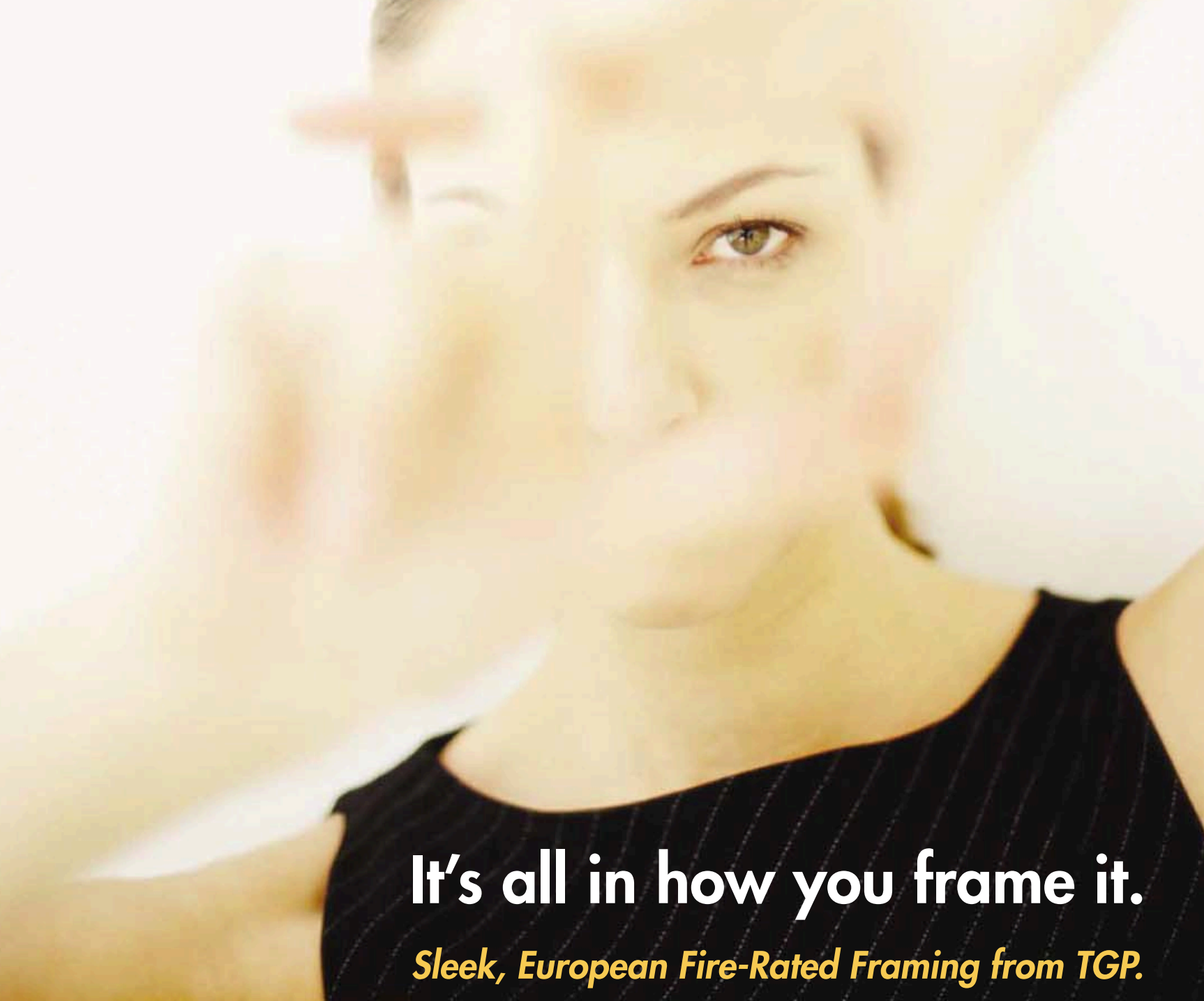
ABC MPA

The McGraw-Hill Companies

THE AMERICAN INSTITUTE OF ARCHITECTS 2005 BOARD OF DIRECTORS • OFFICERS: Douglas L. Steidl, FAIA, MRAIC, President; Kate Schwennsen, FAIA, First Vice President; Shannon Kraus, AIA, Vice President; Thomas R. Mathison, FAIA, Vice President; RK Stewart, FAIA, Vice President; John C. Senhauser, FAIA, Secretary; James A. Gatsch, FAIA, Treasurer; Ana Guerra, Associate AIA, Associate Representative to the AIA Executive Committee; Sandra Stevens, Hon. AIA, CACE Representative to the AIA Executive Committee; Norman L. Koonce, FAIA, Executive Vice President/CEO. • **REGIONAL DIRECTORS:** Peter J. Arsenaault, AIA, NCARB, LEED AP; Douglas E. Ashe, AIA; Michel C. Ashe, AIA; Ronald J. Battaglia, FAIA; William D. Beyer, FAIA; Michael Broshar, AIA; David J. Brotman, FAIA; Randy Byers, AIA; Tommy Neal Cowan, FAIA; Jacob Day; Jeremy Edmunds, Associate AIA, LEED AP; Glenn H. Fellows, AIA; Robert D. Fincham, AIA; Jonathan L. Fischel, AIA; Marion L. Fowlkes, FAIA; Saul Gonzalez; The Hon. Jeremy Harris, Hon. AIA; John J. Hoffmann, FAIA; William E. Holloway, AIA; Clark Llewellyn, AIA; Marvin J. Malecha, FAIA; Clark D. Manus, FAIA; Linda McCracken-Hunt, AIA; Carl F. Meyer, FAIA; George H. Miller, FAIA; Elizabeth E. Mitchell; Hal P. Munger, AIA; Robin L. Murray, AIA, PP; Celeste A. Novak, AIA, LEED AP; Gordon N. Park, CDS, AIA; David R. Proffitt, AIA; Marshall E. Purnell, FAIA; Miguel A. Rodriguez, AIA; Jerry K. Roller, AIA, NCARB; Jeffrey Rosenblum, AIA; Robert I. Selby, FAIA; Norman Strong, FAIA; Leslie J. Thomas, AIA; J. Benjamin Vargas, AIA; Bryce A. Weigand, FAIA. • **AIA MANAGEMENT COUNCIL:** Norman L. Koonce, FAIA, Executive Vice President/CEO; James Dingar, CAE, Chief Operating Officer; Richard J. James, CPA, Chief Financial Officer; Jay A. Stephens, Esq., General Counsel; Helene Combs Dressling, FAIA, Team Vice President, AIA Community; Ronald A. Fauchaux, PhD, Esq., Team Vice President, AIA Government Advocacy; Barbara Sido, CAE, Team Vice President, AIA Knowledge; Elizabeth Stewart, Esq., Team Vice President, AIA Public Advocacy; David Downey, CAE, Assoc. AIA, Managing Director, AIA Communications by Design; Suzanne Harness, AIA, Esq., Managing Director and Counsel, AIA Contract Documents; Richard L. Hayes, PhD, RAIC, AIA, CAE, Managing Director, AIA Knowledge Resources; Brenda Henderson, Hon. AIA, Managing Director, AIA Component Relations; Christine M. Klein, Managing Director, AIA Meetings; Carol Madden, Managing Director, AIA Membership Services; Philip D. O'Neal, Managing Director, AIA Technology; C.D. Pangallo, EdD, Managing Director, AIA Continuing Education; Terence J. Poltrac, Managing Director, AIA Communications; Phil Simon, Managing Director, AIA Marketing and Promotion; Laura Viehmyer, SPHR, CEBS, CAE, Chief Human Resources Officer.

TlFe800H

PRINTED IN USA

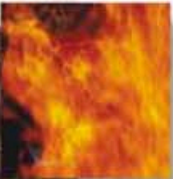


It's all in how you frame it.

Sleek, European Fire-Rated Framing from TGP.



Say goodbye to bulky, wrap-around framing. Fireframes® from TGP give you the beauty and performance your design needs.

- 
- ***Fire-rated up to 2 hours***
 - ***Narrow profile steel framing***
 - ***Available in stainless steel***
 - ***U.L. listed***
 - ***Easy to install***
 - ***Factory finished***

For more information, visit
fireglass.com

 **TGP**
Technical Glass Products™
1-800-426-0279

CIRCLE 3 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/
Fireframes is a registered trademark and Technical Glass Products is a trademark of Technical Glass Products. © 2005 Technical Glass Products. All rights reserved.

*2005 Brand Use Study, *Builder* magazine. The product colors you see are as accurate as current photography and printing techniques allow. We suggest you look at product samples before you select colors. Printed in the U.S.A. March 2005. THE PINK PANTHER™ & ©1964-2005 Metro-Goldwyn-Mayer Studios Inc. All Rights Reserved. The color PINK is a registered trademark of Owens Corning. Cultured Stone® is a registered trademark of Owens Corning.



Design by SFlones Architects. Photo by Weldon Brewster.



YOU HAVEN'T BEEN ALLOWED THIS MUCH CREATIVITY



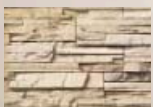
Envision the possibilities with StoneCAD® software StoneCAD® software has everything you need to select, visualize, detail and specify Cultured Stone® products. Detailed installation drawings, full-color tileable textures and hatch patterns needed to render drawings can be viewed, printed, imported and exported into most CAD, 2-D and 3-D programs. There's even a photo gallery tour with hundreds of Cultured Stone® product applications, catalogued by project type for easy reference.

The Cultured Stone® brand offers a wider variety of shapes, textures, sizes and colors than any other brand of manufactured stone veneer.

In other words, no one else gives you as many possibilities. So when you design with Cultured Stone® veneer you're only limited

by your imagination. And wherever you use it, the opportunities for adding a unique signature touch and being creative are endless.

All Cultured Stone® products are available nationally, and for the last six years the Cultured Stone® brand has ranked #1 in builder usage





Design by SFJones Architects. Photo by Weldon Brewster.



SINCE YOUR WORK HUNG ON THE FRIDGE.



C U L T U R E D S T O N E®

by more than two to one.* So go ahead, let your imagination run wild and create an architectural masterpiece with Cultured Stone® veneer.

To find out more about Cultured Stone® products, visit us at www.culturedstone.com or call 1-800-255-1727.



ACOUSTICS •

INSULATION •

ROOFING •

MANUFACTURED STONE VENEER •

SIDING •



INNOVATIONS FOR LIVING.™

CIRCLE 4 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

TLCe800H

SALT LAKE CITY PUBLIC LIBRARY: Salt Lake City, Utah	ARCHITECT: VCBO Architecture, L.L.C. and Moshe Safdie & Associates Inc.	GLAZING CONTRACTOR: Steel Encounters
GLASS FABRICATOR: Northwestern Industries, Inc.	PRODUCT: Solarban® 60 Glass	OWNER/DEVELOPER: Salt Lake City Public Library

LOOKS ARE STILL EVERYTHING.

The goal for Salt Lake City's new main library building was to reflect and engage the city's imagination and aspirations. Achieving this required a sweeping and sunlit design, a desire to embrace the view of the nearby Wasatch Mountains, and a call to a member of the *PPG Certified Fabricator*SM Program.

Bringing this level of open, compelling design to a public library also brings an elevated concern for UV protection and heating costs – which can complicate a tight schedule. But by specifying one of PPG's high-performance glasses through a *PPG Certified Fabricator*SM, you get the right glass from a qualified, local supplier – delivered at the right time.

PPG offers a wide range of energy-saving glass products that look great and perform even better. Including *Solarban*® 60 – the solar control low-E glass that's engineered to look like clear, uncoated glass. Or *Sungate*® 500 low-E glass which, when used with spectrally selective tinted glasses, delivers an ideal combination of aesthetics and performance. Call the PPG Solutions Hotline today for samples or the name of a *PPG Certified Fabricator*SM that's near you: 800-377-5267.

IdeaScapes, Solarban, Sungate and the PPG logo are trademarks and PPG Certified Fabricator is a service mark owned by PPG Industries, Inc.



CIRCLE 5 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/



IdeaScapes
Glass • Coatings • Paint

PPG Industries, Inc., Glass Technology Center, Guys Run Road, Pittsburgh, PA 15238-1305 www.ppgideascales.com

TEFEB00H



TLCeB00H

Design. Create. Inspire.



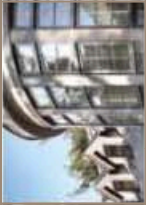


TLCeB000H

Turning heads since 1905 with an eye for custom configuration.

Douglas Fir, Mahogany, 36 exterior clad colors, extraordinary aesthetic plenitude - trillions of variations.

Visit www.loewen.com to download CAD drawings or contact the Loewen Architectural Help Desk for more information.



Discover the world's most inspiring windows and doors. | 1.800.563.9367

CIRCLE 6 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/



Work the way you think.

Autodesk

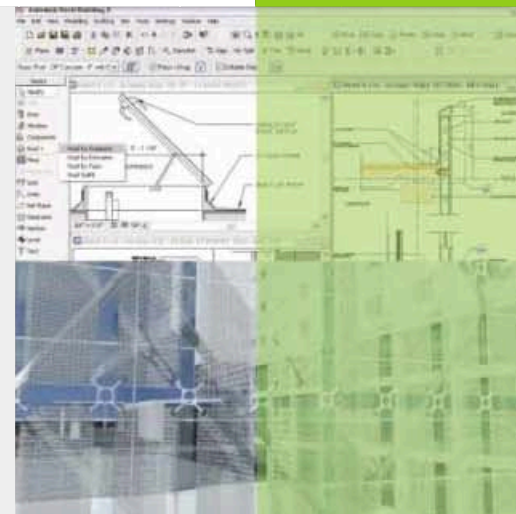
Idea:

Improve an architect's business by providing a more complete way to think about buildings, from design through construction.

Realized:

With Autodesk® Revit® Building software, design teams achieve superior documentation, more effective design coordination, and more productive collaboration. So clients are happier, you get more repeat business, and you're more profitable. Because it's created specifically for building information modeling, designing buildings and your work process with Revit Building can help you realize your ideas to compete and win. See how at autodesk.com/revitbuilding/win. See how at autodesk.com/revitbuilding

Autodesk and Autodesk Revit are registered trademarks of Autodesk, Inc., in the USA and/or other countries. All other brand names, product names, or trademarks belong to their respective holders. © 2005 Autodesk, Inc. All rights reserved.



TLCeBOOK

ARCHITECTURAL RECORD

05.2005

On the Cover: Santiago Calatrava in his Zurich studio in April 2005. Photograph by Nathan Beck Photography
Right: Perimeter Institute. Photograph by Marc Cramer



News

- 51 Is Renzo Piano America's default architect?**
- 54 AIA to investigate decline in new licenses**
- 66 On the Boards: Las Vegas**

Departments

- 25 Editorial: It's in the Air***
- 37 Letters***
- 83 Correspondent's File: Rome** by Paul Bennett
- 91 Exhibitions: Mexico City's new architects** by Sam Lubell
- 95 Archrecord2: For the emerging architect** by Randi Greenberg*
- 101 Books: Star architects and airports**
- 109 Snapshot: Nomadic Museum** by Beth Broome
- 355 Dates & Events***
- 399 Record House of the Month** by William Weathersby, Jr.*

Features

- 115 AIA Awards Introduction** by Jane F. Kolleeny*
The AIA honors projects selected from more than 630 submissions.
- 116 Architecture Awards***
Thirteen projects include a sauna and a corporate headquarters.
- 130 Interior Awards***
A wide range of programs yield innovative solutions.*
- 146 Urban Design Awards***
Providing open space and maintaining scale are evident priorities.

152 25 Year Award*

Louis I. Kahn's Yale Center for British Art earns the honor.

156 Firm of the Year Award*

Murphy/Jahn brings futuristic vision and high energy to the field.

162 Santiago Calatrava

 by Alexander Tzonis*

The architect reveals a passion for building that has led him to create one of today's most notable bodies of work.

176 Philip Johnson: An American Icon*

Three observers of the man and the architect address key issues of his life and his long-spanning career.

186 Las Vegas Gambles on Growth

 by James S. Russell, AIA*

High growth and low costs is the city's economic-success formula.

194 What's Left to Learn From Las Vegas

 by Clifford A. Pearson*

How a new mentality is affecting a city's built environment.

Projects

202 Knowlton School of Architecture, Ohio

 by Sara Hart*

Mack Scogin Merrill Elam Architects

A high-profile education program gets the facility it deserves.

210 Perimeter Institute, Canada

 by Rhys Phillips*

Saucier + Perrotte Architectes

Site-sensitive physics building captures an institute's raison d'être.

218 Flint RiverQuarium, Georgia

 by Sarah Amelar*

Antoine Predock Architect

A building akin to a landform showcases local aquatic culture.

224 Hall of Science, New York

 by Suzanne Stephens*

Polshak Partnership

After 40 long years, World's Fair leftovers get a new life.

* You can find these stories at www.architecturalrecord.com, including expanded coverage of Projects, Building Types Studies, and Web-only special features.



The AIA/ARCHITECTURAL RECORD

Continuing-Education Opportunity is "Born Again: A New Skin Offers a Fresh Start" (page 261).

05.2005

(Contents continued from previous page)



Bigelow Chapel (top), photograph by Paul Warchol. Royal Academy of Arts Restaurant (bottom right), photograph by Richard Bryant/arcaid.co.uk. Urban wind turbine (bottom left), photograph courtesy Toronto Hydro Energy Services.

Building Types Study 845

- 235 Sacred Spaces** by Clifford A. Pearson
- 236 Bigelow Chapel, Minnesota** by Camille LeFevre*
Hammel, Green and Abrahamson
Inspiring worship, a chapel illuminates a midwestern seminary.
- 242 Leaf Chapel, Japan** by Clifford A. Pearson*
Klein-Dytham Architecture
A small wedding chapel marries sacred and commercial interests.
- 246 Holy Rosary Catholic Church, Louisiana** by Robert Ivy, FAIA*
Trahan Architects
Concrete and glass bring parish church into the present day.
- 252 Seaside Interfaith Chapel, Florida** by James S. Russell, AIA*
Merrill and Pastor
To accommodate town's growing beachside service, a chapel is born.
- For 6 additional Sacred Spaces projects, go to Building Types
Study at architecturalrecord.com.

Architectural Technology

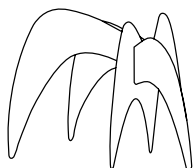
- 261 Born Again: A New Skin Offers a Fresh Start** 
by Sara Hart*
Recladding of a city hall is an investigative study of the relationship between architectural design and the life expectancy of materials.
- 272 A Mighty Wind Is Blowing** by Barbara Knecht*
The wind power industry is robust. Information is abundant.
Clean, endless energy has never been at closer reach.
- 281 Tech Briefs**

Lighting

- 309 Introduction**
- 310 Creative Uses**
- 315 Duvet** by William Weathersby, Jr.*
Andres Escobar & Assoc; XS Lighting & Sound
Evocative lighting complements a nightclub's ethereal landscape.
- 320 Leadership Center at Cedarbrook** by Alice Liao*
Candela
Smart illumination plan alleviates the "trapped in a meeting" feeling.
- 326 Royal Academy of Arts Restaurant** by Leanne French*
MUMA; DHA Designs
Color-changing effects highlight a restaurant's art and architecture.
- 331 Lighting Products** Rita Catinella Orrell

Products

- 337 Contract Carpet**
- 341 Product Briefs**
- 350 Product Literature**
- 384 Reader Service*** **378 AIA/CES Self-Report Form***



AR is the proud recipient of a **National Magazine Award for General Excellence**



indestructible?

Doors get beat up.

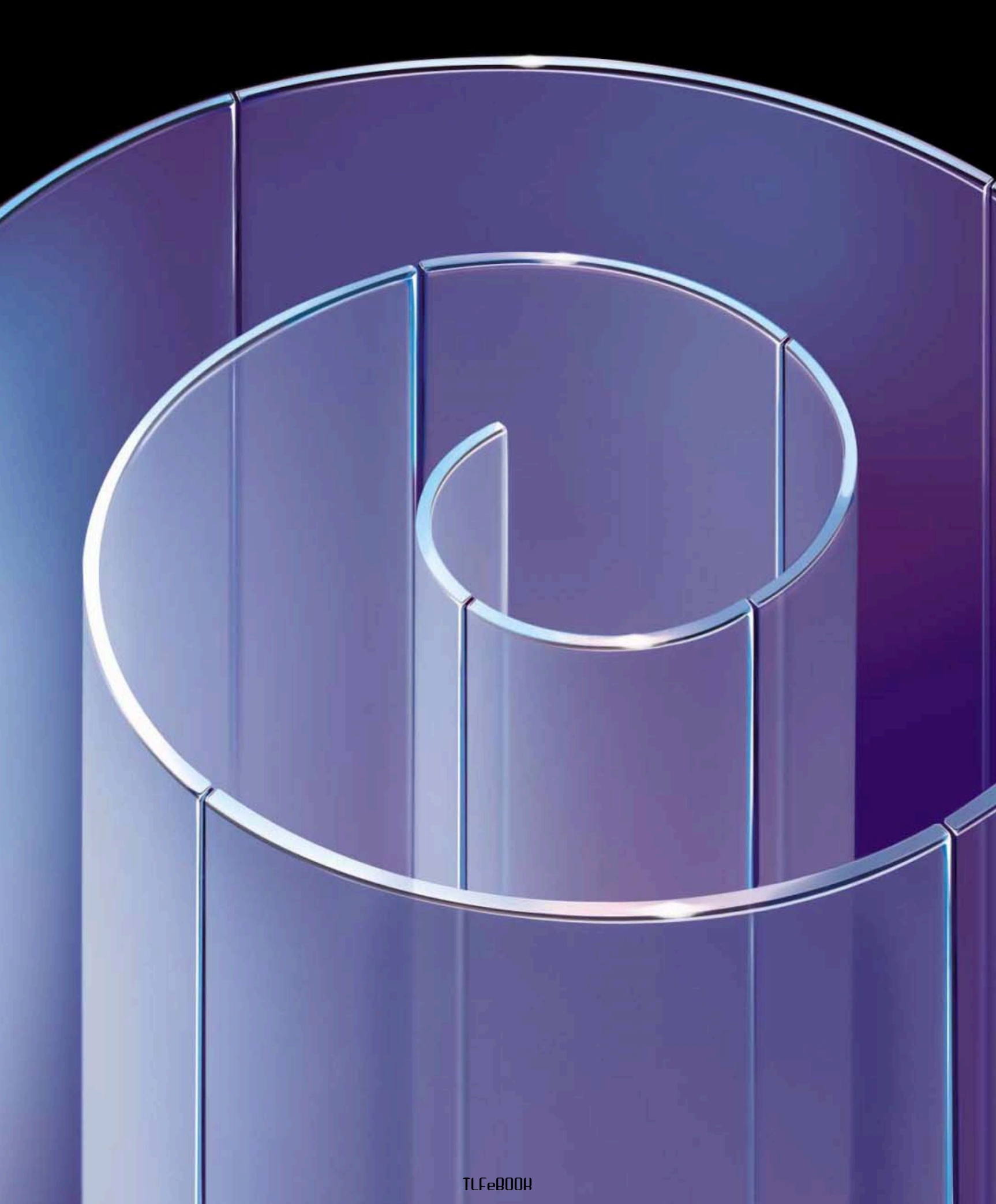
In fact, doors take the worst beating of any part of a commercial interior - until now! **Introducing the New C/S Acrovyn® Door**, designed to take any kind of punishment and continue looking new for years to come. And when it comes to aesthetics, the Acrovyn Door comes in **lots of woodgrain finishes and designer colors**, so it will fit into any interior. While it may not be indestructible, it's pretty darn close. To find out more, call 800-972-7214 or visit www.c-sgroup.com/door

introducing new c/s acrovyn® doors

See us at Booth #3242 AIA Convention

CIRCLE 38 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

TLEB0004



TLCeB00H

bent beyond recognition

Glass as flexible and nimble as the creative mind? Sure! But this is no ordinary glass—it's **Bentemp®, another Oldcastle Glass® exclusive**. And the process of bending and tempering glass is merely the beginning. By employing the most technologically advanced fabrication processes, we silk-screen, laminate, heat-treat, insulate and even offer structural glass wall systems. We also make blast-resistant glazing systems and more. And these are just the beginning of **the most comprehensive collection of architectural glass products available anywhere**. For free information or to speak with an **experienced, architectural glass specialist**, call **1-866-653-2278** or visit the new **www.oldcastleglass.com**.



The spectacular Glass Cylindrical Light Towers at the LAX Gateway, Los Angeles International Airport designed by Ted Tokio Tanaka Architects, Nadel Architects, Inc. Fabricated by Oldcastle Glass® in Bentemp®



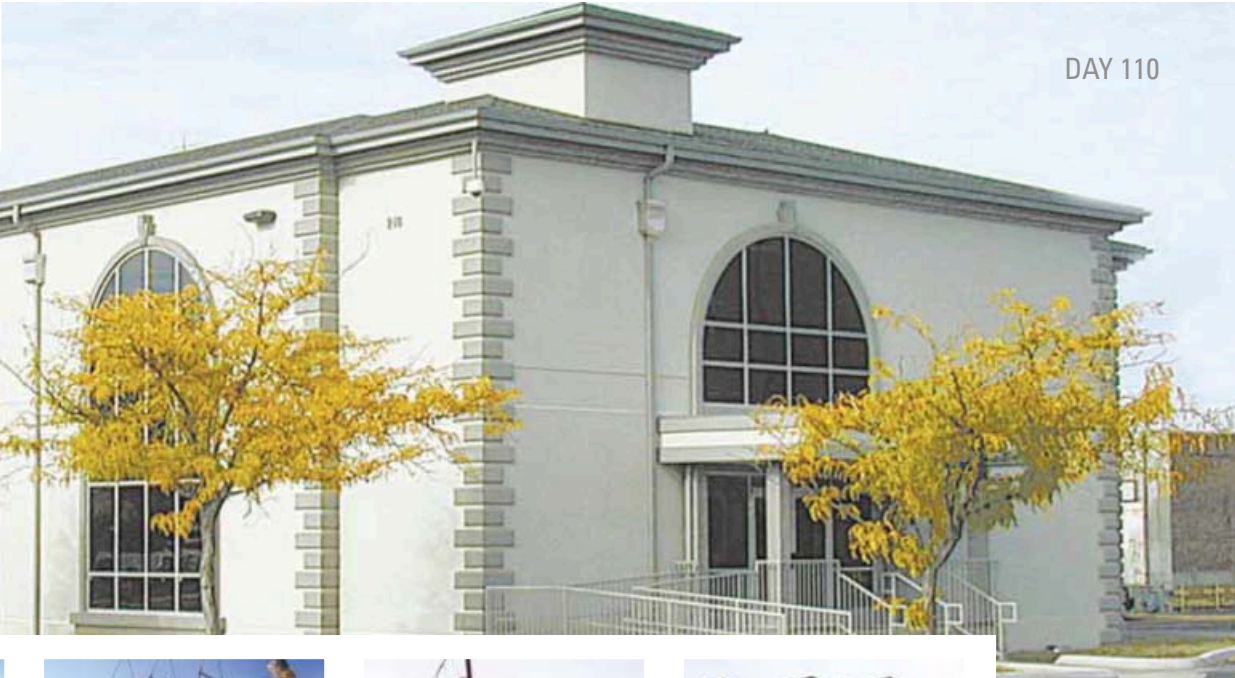
Oldcastle Glass®

Where glass becomes architecture™

CIRCLE 7 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

TlFe800H

Suits Your Timeline. Suits



DAY 110



DAY 1



DAY 40



DAY 41



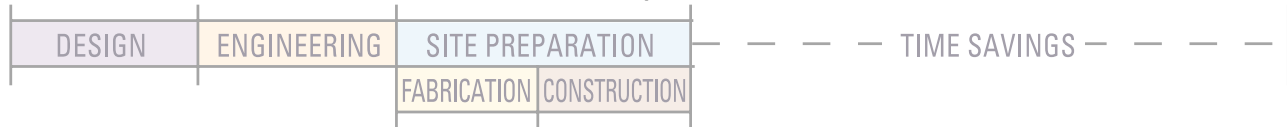
DAY 70

Williams Scotsman's **Concurrent Construction™** Process Timeline

TRADITIONAL CONSTRUCTION



CONCURRENT CONSTRUCTION™ – Nearly Half the Time!



Your Budget. Suits Your Style.

Permanent Modular Construction can trim months from your schedule, keep your project running in the black and still provide you with near limitless design flexibility. Consider our buildings as the strong bone structure that supports the full scope of your creative masterplan.

Our Concurrent Construction™ process – allowing critical steps in site preparation, building fabrication and installation to occur simultaneously – is a textbook example of efficiency. Off site, your building is fabricated in a tightly monitored and supervised environment that ensures the highest level of quality control. Assembly is accomplished with speed and precision. All of this translates into quicker occupancy and harmonious workflows.

One final consideration: you can be assured your project will benefit from the security, breadth of experience, and financial strength only an industry leader can provide.

Williams Scotsman's permanent modular construction – perfectly suited to the building realities of the 21st century.



PERMANENT MODULAR
CONSTRUCTION

866.WS.BUILD
www.willscot.com

CIRCLE 8 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

You can already tell exactly what kind of house it's going to be.



©2005 Marvin Windows and Doors. All rights reserved. ©Registered trademark of Marvin Windows and Doors.

TLCe800H



The right windows and doors help bring your plans to life beautifully. Specify Marvin, and you're assured of complete design flexibility and better-performing windows and doors with superior aesthetics. That includes furniture-grade interiors, consistent sight lines and the tightest tolerances possible — along with countless design options, from cladding profiles to hardware choices. Call 1-800-236-9690 or visit marvin.com

MARVIN 
Windows and Doors

CIRCLE 9 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

**If you look real close you can see 25 years
of fire-rated glazing experience reflected in it.**



SCHOTT PYRAN® fire-rated glass-ceramics are an architect's best friend.

PYRAN® is everything you've been looking for in fire-rated glass. It's fire-protective, impact-resistant and, aesthetically speaking, quite fetching. PYRAN® Crystal offers the highest standard of clarity, transmission and true color rendition. And PYRAN® Star is both beautiful and economical. PYRAN® is available with a surface applied film, laminated or polished. It comes in large sizes and is easily accessible through distributors, fabricators and glaziers. For new construction or retrofit, spec the glass with a loyal following among fire professionals – PYRAN®.



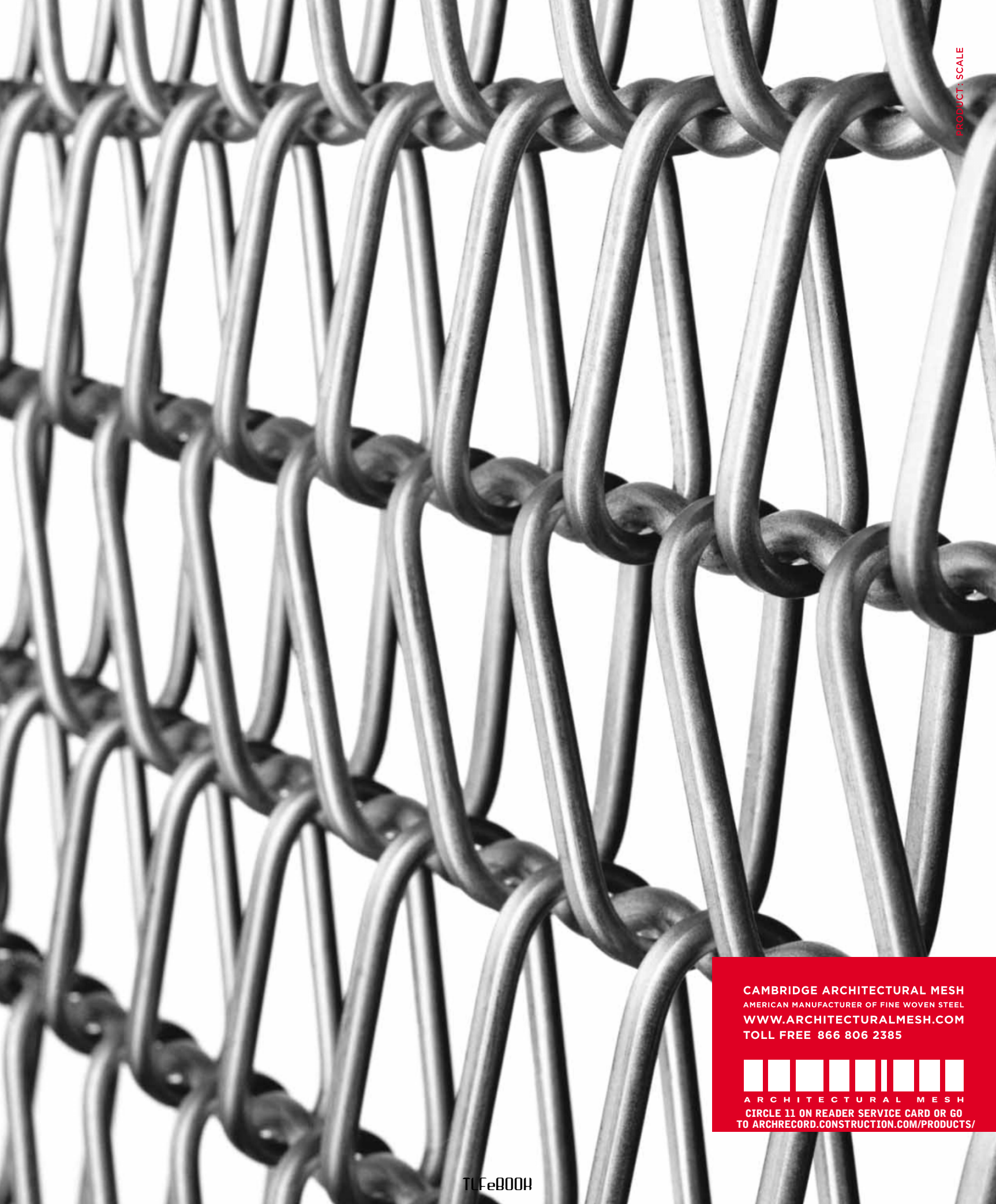
Home Tech
SCHOTT North America, Inc.
Phone: 502-657-4417
Fax: 502-966-4976

E-mail: pyran@us.schott.com
www.us.schott.com/pyran

©2005 SCHOTT North America, Inc.

® PYRAN is a registered trademark of SCHOTT AG, Mainz, Germany

SCHOTT
glass made of ideas



PRODUCT: SCALE

CAMBRIDGE ARCHITECTURAL MESH
AMERICAN MANUFACTURER OF FINE WOVEN STEEL
WWW.ARCHITECTURALMESH.COM
TOLL FREE 866 806 2385



ARCHITECTURAL MESH
CIRCLE 11 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

TUFEB00H



Accessible claims service. Expert answers.

When a claim occurs the questions begin: How will I pay? How will the hassles of dealing with a claim affect my business? As a CNA/Schinnerer insured firm, you can be certain of our ability to respond with streamlined service and expert answers. We'll handle your claim personally through one of our over 35 claims specialists located across the country. From there, a team of experts with nearly 50 years of industry experience takes over, to provide a solution you can feel good about. So you can keep things running, business as usual.

Find out more about CNA/Schinnerer's expert service at www.PlanetAEC.com or by calling us at **301.961.9800**.



Innovation from Expertise

**CIRCLE 12 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/**

CNA is a service mark and trade name registered with the US Patent and Trademark Office. The program referenced herein is underwritten by one or more of the CNA companies. This information is for illustrative purposes only and is not a contract. ©2005.

TlFe800H



It's in the Air

Editorial

By Robert Ivy, FAIA

Something's in the air. Call it community-based design. Call it architecture for people. In any understanding, socially conscious architecture seems to be blossoming again. Kate Schwennsen, FAIA, the incoming president of the AIA and an educator, says the sea change is palpable in the design studio. According to Schwennsen, students seem interested in a different agenda from an earlier generation, which was more focused on career or technology. Quietly, the people-centered component of architecture is spreading like goodwill, putting designers and builders in touch with real people in real places.

Our collective hunger for humanistic design and planning is not new. In the not-so-distant past, think of Frederick Law Olmsted and the 19th-century parks movement, offering open space and fresh air for tenement-bound urban dwellers. More recently, remember storefront architecture of the late 1960s and 1970s? The attitude accompanied the haircuts and the tie-dyes; environmentalism of the same period had a strong social component.

While art with a capital "A" or design for design's sake attracts many young people, idealism provides another primary rationale for their vocation. As a group, students are often interested in helping individuals obtain higher quality of life, whether in housing or in public places. Graduation, however, can be a wake-up call. The business world offers few opportunities to spread our fellow feeling, much less our good works. Where, we wonder, can we exercise our skills on behalf of others?

Look around and see that architecture for people comes in different forms. It's not all about freebies. Michael Pyatok has built a practice with clients who need his services in special ways. The YWCA Family Village in Redmond, Washington, for instance, includes a diverse program of services and housing for homeless women with children. In California, Ann Fougeron designed women's clinics in Bay Area malls that create a sense of comfort while providing colorful, secure environments. On the opposite coast, in Massachusetts, architect Carol Burns designed a shelter called Casa Nueva Vida for embattled Hispanic women.

Universities have long been in the hands-on business. Steve Badanes and Damon Smith have led a design-build studio that has created the Danny Woo Community Gardens (an urban park in Seattle) and the T.T. Minor Elementary School play area, among others. The University of Washington, where Badanes and Smith teach, has reached out to communities as far away as Mexico, spreading design power south. Still farther it

spreads: The College of Architecture and Planning at Ball State University in Indiana recently headed to Southeast Asia. This year, 21 students made the trek to Sri Lanka, site of the devastating tsunami.

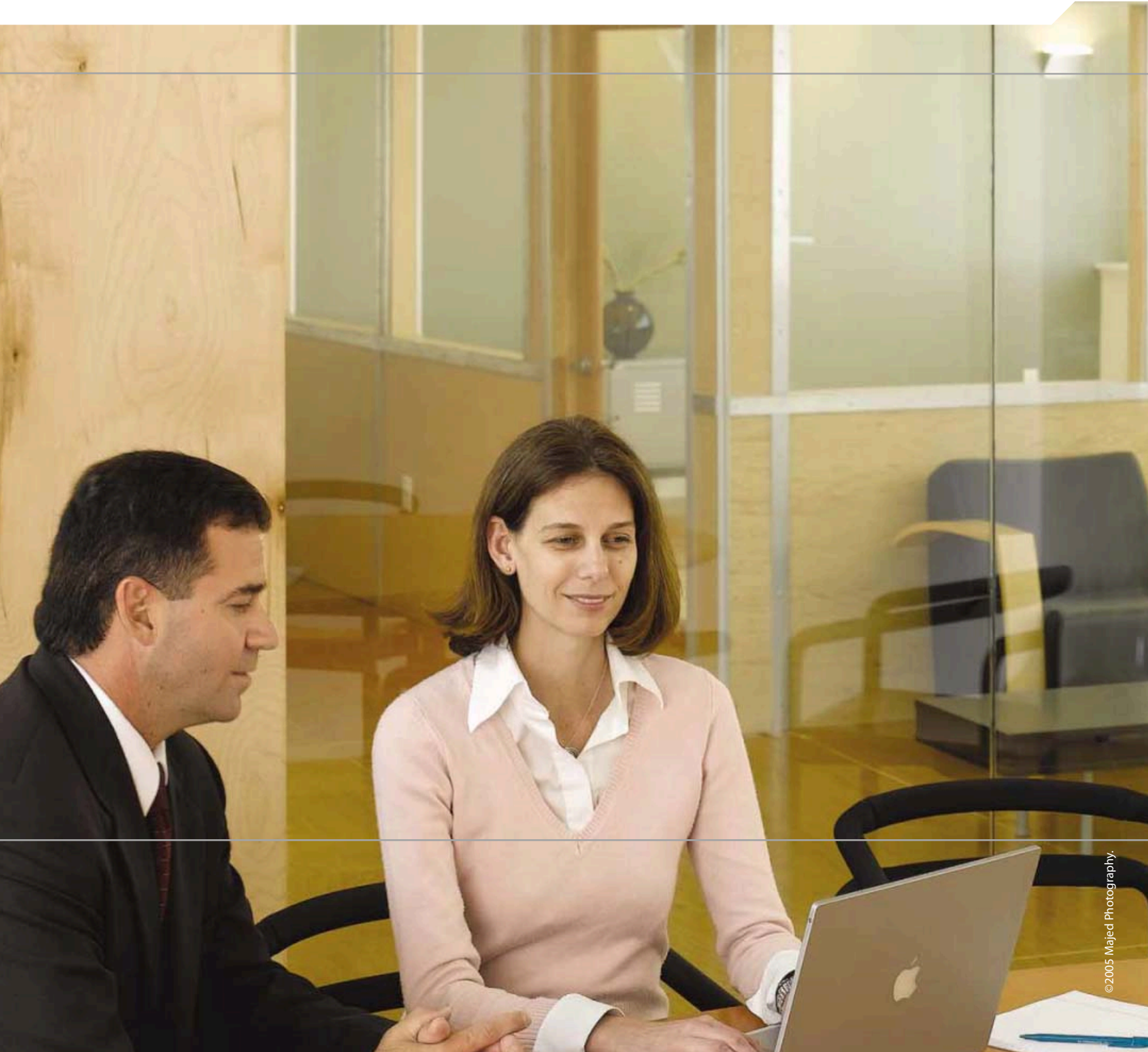
Many programs, like Auburn's Rural Studio in Alabama, are already superstars. You know about organizations like Habitat (and Architecture) for Humanity, which provide both basic shelter and disaster relief. And you probably recognize New York's Robin Hood Foundation, which redistributes Wall Street wealth to the public schools, employing talented designers for libraries. But do you know about Design Corps, which Bryan Bell founded in 1998 to provide decent housing for migrant workers? Or the theoretical programs by San Diego architect Teddy Cruz, such as "Living Rooms at the Border?"

Architect John Peterson, a San Francisco practitioner, started something entirely fresh that is growing into a powerhouse. Public Architecture, a nonprofit organization that his firm hosts, has evolved from its initial efforts at community building. Although only in its "adolescence," according to Peterson, it has come up with a great idea.

The "1% Solution," proposed by Public Architecture, suggests that architects donate a small but statistically meaningful percentage of their time toward the public good—a small, but powerful notion. John Cary, Public Architecture's executive director, hopes that architects can donate time or resources "without having to make extreme sacrifices." One percent translates into 20 hours of volunteerism, or 1 percent of financial resources, piddling amounts that, when added together with the work of many other architects, could make tremendous changes. The idea is smart, clean, and memorable.

With all this youthful enthusiasm, and all these programs, has the pendulum decisively swung from formalism to activism? Apparently, it's tilting in a new direction. Perhaps after a decade of technical and material advancement, armed with the realization that we can make anything we set our minds (and our computers) to, we are turning our attention to the fundamental question: Who are these amazing forms intended for?

A New Vision in Fire Rated Walls.

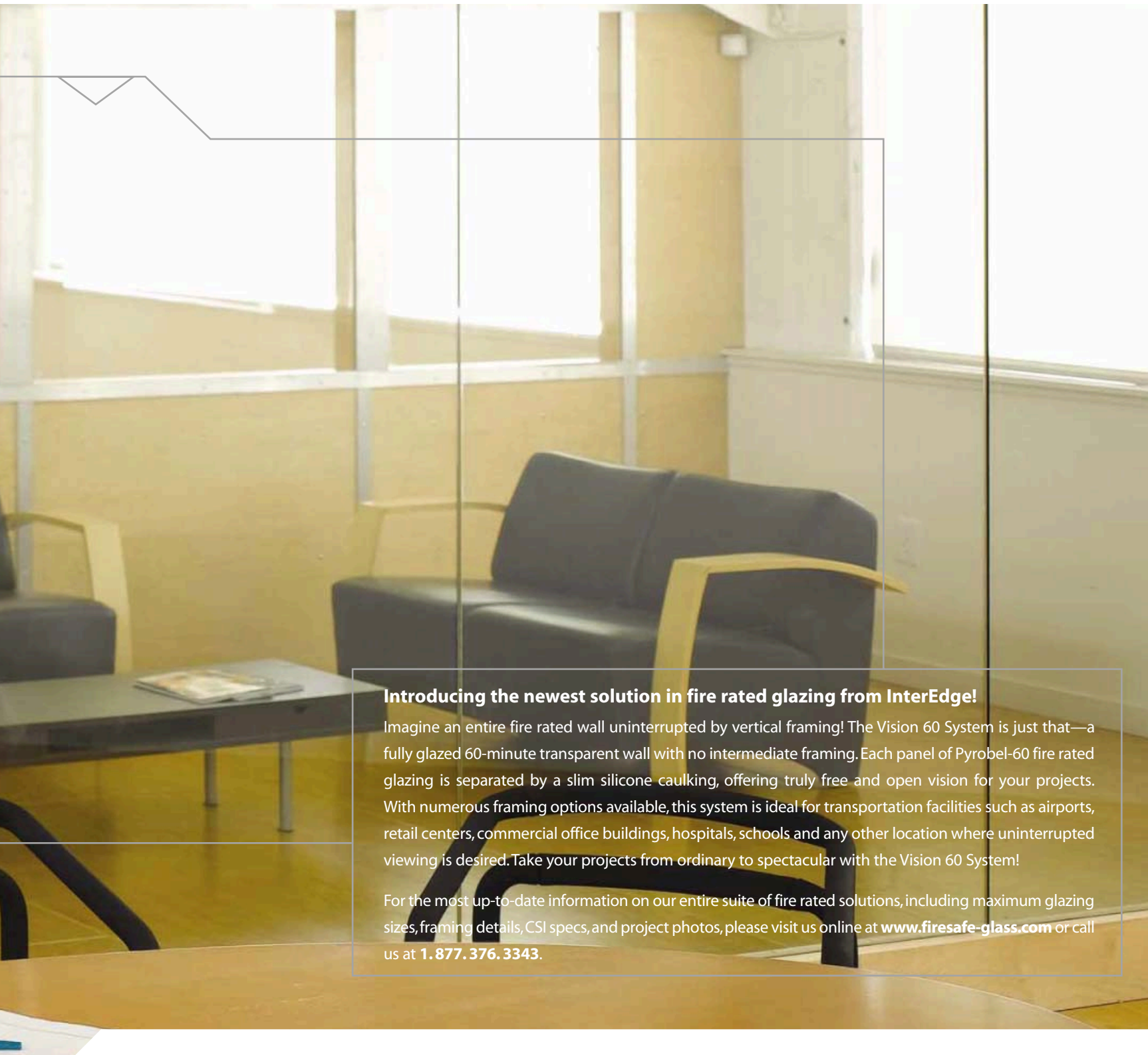


©2005 Majed Photography.

PyroEdge™ | Pyrobel™ | PYRAN® | StileLite™ | HighLite™ | Vision 60 System™

PyroEdge, StileLite, HighLite and Vision 60 System are registered trademarks of InterEdge Technologies. Pyrobel is a registered trademark of Glaverbel S.A. PYRAN® is a registered trademark of SCHOTT AG (Mainz, Germany).

TLCe800H



Introducing the newest solution in fire rated glazing from InterEdge!

Imagine an entire fire rated wall uninterrupted by vertical framing! The Vision 60 System is just that—a fully glazed 60-minute transparent wall with no intermediate framing. Each panel of Pyrobel-60 fire rated glazing is separated by a slim silicone caulking, offering truly free and open vision for your projects. With numerous framing options available, this system is ideal for transportation facilities such as airports, retail centers, commercial office buildings, hospitals, schools and any other location where uninterrupted viewing is desired. Take your projects from ordinary to spectacular with the Vision 60 System!

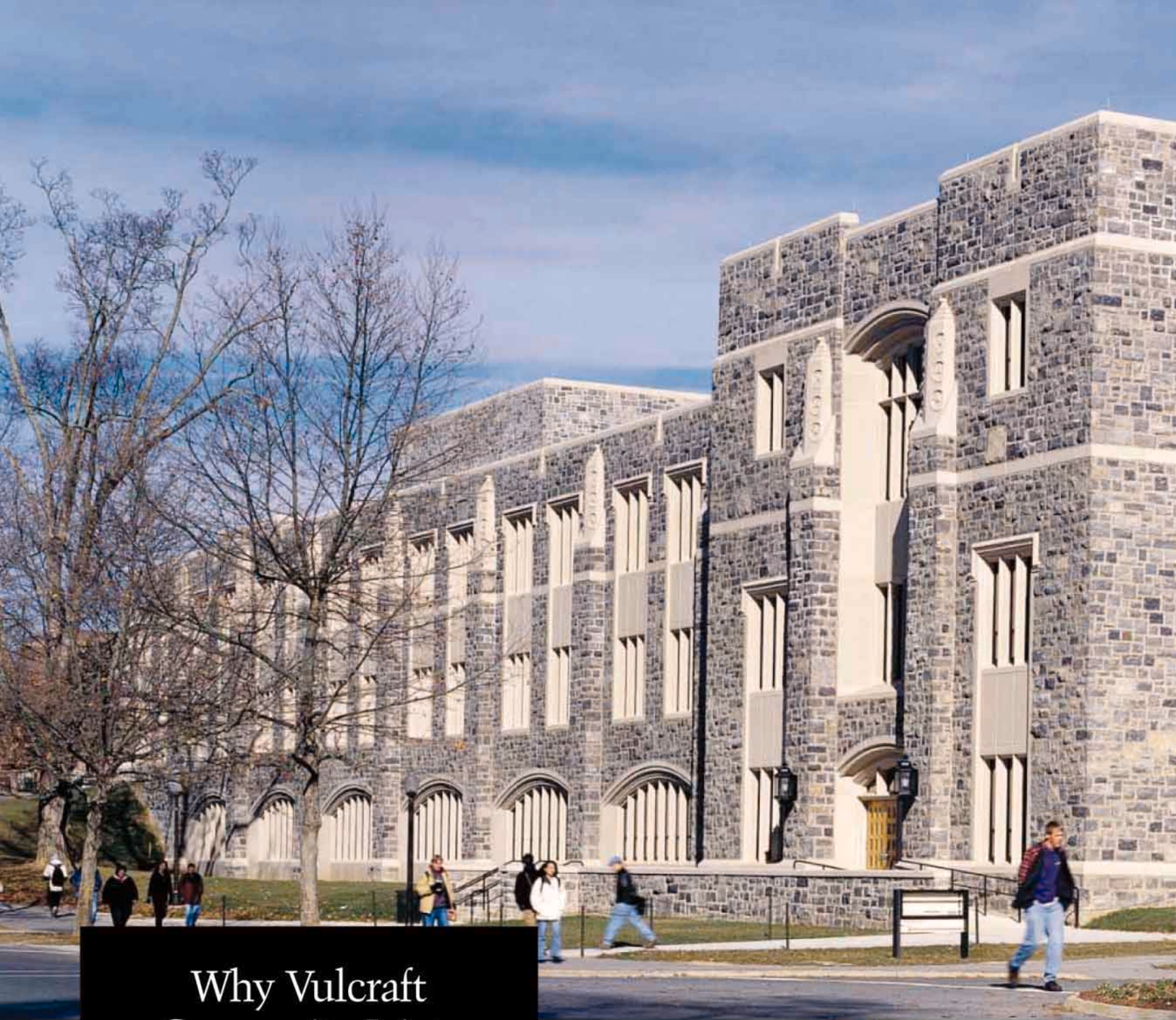
For the most up-to-date information on our entire suite of fire rated solutions, including maximum glazing sizes, framing details, CSI specs, and project photos, please visit us online at www.firesafe-glass.com or call us at 1.877.376.3343.



Vision for Life. Vision for Safety.
Fire Rated Glazing Solutions for All Your Visions.

TlFe800H

CIRCLE 13 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/



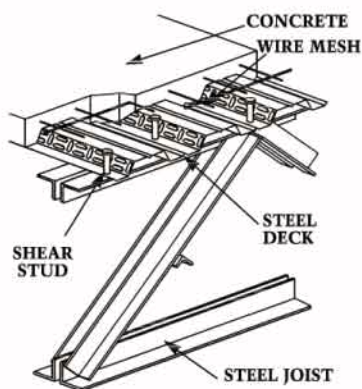
Why Vulcraft Composite Joists Received High Marks From Virginia Tech.

flexibility in floor usage, large column free 40' bays and ample space for HVAC ductwork.

After careful analysis, it was clear that composite joists developed jointly by Vulcraft and Virginia Tech's structural engineering department were the answer.

The system involved 3" composite deck supporting 6" of normal weight concrete with 3/4" diameter shear studs providing connection between the steel joists and overlying concrete slab. It all makes for popular longer floor spans while minimizing floor-to-floor heights, because HVAC

When planning the \$21 million Torgersen Hall, Virginia Tech's advanced communication, information, and technology center, the architecture/engineering firm of Sherertz Franklin Crawford Shaffner, Inc. faced a number of design challenges. They included cost,



ductwork can run through the open webs of the joists. And the system is almost always less expensive than cast-in-place reinforced concrete construction.

As the largest and most experienced producer of steel joists and deck in the country, you can look to Vulcraft for innovative, cost saving design ideas. Virginia Tech did, and we passed with flying colors.

NUCOR **VULCRAFT GROUP**

www.vulcraft.com

Brigham City, Utah 435/734-9433
 Florence, SC 843/662-0381
 Fort Payne, AL 256/845-2460
 Grapeland, TX 936/687-4665
 Norfolk, NE 402/644-8500
 St. Joe, IN 260/337-1800
 Chemung, NY 607/529-9000
 (Vulcraft of NY, Inc.)

CIRCLE 14 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

ARCHITECT/ENGINEER: Sherertz Franklin Crawford Shaffner, Inc. • DESIGN ARCHITECT: Esocoff & Associates Architects
 GENERAL CONTRACTOR: Branch & Associates • STEEL FABRICATOR: Banker Steel • STEEL ERECTOR: Williams Steel Erection



YKK AP *is...*

green.

YKK Group Environmental Charter

The YKK Group Environmental Charter was established in September 1994 and has consistently taken on environmental issues as a company-wide challenge. The principle of the Environmental Charter is to promote prosperous, healthy lives and harmonious coexistence with our environment and to preserve and improve the environment throughout our corporate operations. Through our corporate activities, we seek to develop an environmentally friendly management style and contribute to the establishment of a recycle-type economic society by promoting environmental policies at all stages — from design and production to disposal, recovery, and recycling.



ISO 14001:2004 Certified



www.ykkap.com
1-800-955-9551

Recycling and Reuse

-  All postindustrial aluminum waste is recycled for reuse on-site
-  All anodizing byproducts are converted into materials for industrial reuse
-  All paper and cardboard waste is recycled and we use electronic forms whenever possible to minimize paper consumption

Reducing Emissions

-  At only 5%, our air emission levels from paint processes are far below current EPA standards
-  Regenerative burners in our melting and casting processes enable savings of 50% on fuel consumption

Wastewater Treatment

-  YKK AP independently developed technology to improve wastewater processes associated with anodizing
-  Initial recovery prior to treatment processes reduces wastewater and chemical consumption



As your
project
grows
near,

be certain your
expectations
aren't out
of reach.



When a design project becomes larger than life, you want to be sure you don't lose ground. That's why **savvy designers specify AWI Quality Certification** on custom architectural woodwork projects. AWI's internationally-recognized Quality Certification Program helps design professionals **verify the skills of woodwork providers, ensuring compliance** with the

AWI Quality Standards during fabrication, finishing and installation when inspected.

Call **800-449-8811** or visit **awinet.org** to register your next architectural woodwork project.

And get an extra measure of assurance before you get clipped.

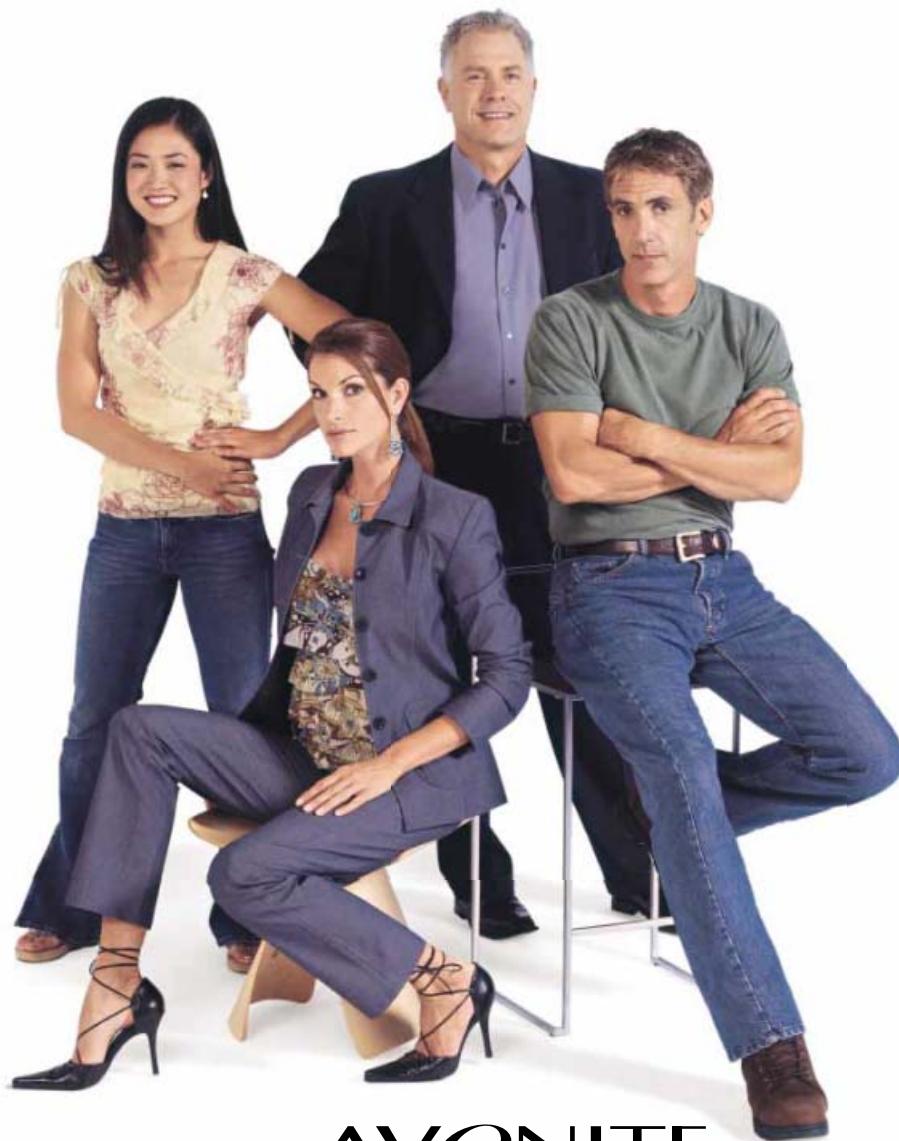


AWI ARCHITECTURAL
WOODWORK
INSTITUTE

1952 Isaac Newton Square West, Reston, VA 20190 | telephone 703 733 0600 | fax 703 733 0584 | www.awinet.org

CIRCLE 16 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Who are you designing for today?



AVONITE
SURFACES
INNOVATIONS IN SURFACING

providing signature solutions for your diverse needs, since 1983

STUDIO COLLECTION™ BEYOND ORDINARY

54 visionary surfaces dedicated to
those who passionately pursue
original ideas and unlimited possibilities

celebrate a fresh sense of
independence and style

FOUNDATIONS™ ADVANCED ACRYLIC SURFACING

51 familiar colors and textures,
embracing nature's own
earth tones and vivid accents

competitively priced for all your
residential and commercial needs

800.4.AVONITE • www.avonitesurfaces.com • Aristech Acrylics LLC • call or log on to get your new sample cases

CIRCLE 17 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Really. Cool.

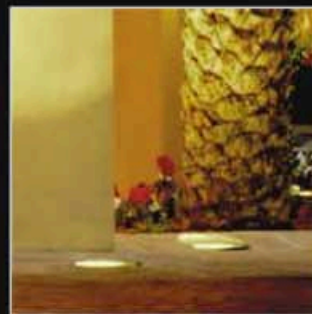
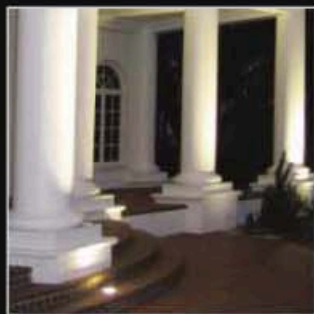
Introducing the ICEE Lens - A significant advancement in the science of heat management.

- Achieves 90+% light output.
- Biaxial control with full 360 rotation and 15° or greater vertical adjustment*.
- Available in 7" and 11" diameter footprint.
- Works with all lamp & reflector configurations.
- Reduces lens temperature significantly below 160°F.*
- Significantly extends contact time - touchable for minutes - not seconds*.

**Lamp choice dependent.*



Finally.



The ICEE lens is available on B-K Lighting's popular line of Precision² and Tenaya² in-grade luminaires.



B-K LIGHTING
Quality to Last a Lifetime™

559.438.5800 • www.bklighting.com

CIRCLE 18 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/



CHICAGO SCHOOL DISTRICT • NATIONAL TEACHERS ACADEMY • PDS
DE STEFANO + PARTNERS

WAUSAU WINDOW AND WALL SYSTEMS

1 877 678 2983
WAUSAUWINDOW.COM

DEADLINES BUDGETS SPECIFICATIONS

SEE THROUGH IT ALL



WAUSAU WINDOW AND WALL SYSTEMS

ADVANTAGE BY WAUSAU PRE-ENGINEERED WINDOWS

Right
THE WAY YOU WANT IT

CIRCLE 19 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

TlFe800H

WIDECK® EDP600



World Trade Center PATH Station, New York, NY
Architect: Santiago Calatrava

inspiration

Looking like they might soar away at any moment, the futuristic, cantilevered steel gull-wings of the new World Trade Center PATH Station canopy are a tribute to imagination. Helping make them possible is EPIC Metals' Wideck EDP structural roof deck ceiling system. With a flush surface appearance and strength to clear span from 10 to 34 feet, the Wideck EDP and WP systems help architectural vision become reality.

For more information call 877-696-3742, or visit epicmetals.com

CIRCLE 20 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

EPIC
METALS CORPORATION

The healthy glow of good design



PRODUCT SHOWN MANTRA GLASS MOSAICS™

**WALKER
ZANGER**

WE KNOW GOOD DESIGN WHEN WE SEE IT. THAT'S BECAUSE AT Walker Zanger we have spent over 50 years pursuing a passion for good design expressed through stone, ceramic and glass tiles. Our goal has always remained constant - to present you with a dazzling array of products, thoughtfully designed to stand the test of time. Because you know good design when you see it, too.

CERAMIC TILE • STONE TILE & SLABS • MOSAICS • TERRA COTTA • GLASS TILE | 877.611.0199 | WWW.WALKERZANGER.COM

CIRCLE 21 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/
TLFeBOOK

Letters

Sculpture housing sculpture

I doubt I am the only architect who delighted in the inadvertent verity of the Record Houses 50th Anniversary issue's cover: the new Record House as a home for sculpture. Sculpture housing sculpture. It all finally makes sense!

—Duo Dickinson

Via e-mail

Mother Nature's unfinished work

Your article on Steven Holl's Turbulence House in April's Record Houses issue [page 185] states, "The final structure ... appears integral to the mesa." Let's see: "Integral: constituting a completed whole." So, obviously a big, metal, round, shiny "stump" was exactly what nature had planned for the site but never got around to making. Could your editors really be more daft than that?

—Derek T. Price

Fairbanks, Alaska

Nothing like a good read

A quick note to congratulate you on another great issue [April 2005]! The piece you did on Record Houses was smart, inspiring, and very well done. I really enjoyed it.

—David Rockwell

Rockwell Architecture, Planning and Design
Manhattan

Support your fellow architect

Thank you for your March news item "Queens Museum drops Eric Owen Moss from renovation" [page 30]. Wouldn't it be nice to see some ethical support from the city's "shortlist" who are being considered to take over the project? They could support Moss by refusing to supplant him. Going along with Queens Museum executive director Tom Finkelpearl and his plan to replace Moss undercuts the idea and legitimacy of design competitions. It is time for architects to support their colleagues.

—Gerald Gamliel Weisbach, FAIA

San Francisco

Sweet metaphors

Robert Campbell, in his critique of MIT's former president's "shallow novelty-seeking" [April 2005, page 101], misunderstands the school's intent as well as denigrates the creative process of two of our finest architects. Great works, whether of poetry, art, or architecture, spring from metaphor.

And what's wrong with ingenuity as a

metaphor? There's a rich history of architectural form that reflects the ingenuity of its users. While it's true that great invention has and will come out of bland buildings, there's no reason it can't come out of metaphorically ingenious ones. MIT's Computer Science department did revolutionize computing in a poorly designed concrete box. But can they not continue to do great things at Frank Gehry's Stata Center?

A call for metaphors of ingenuity might have produced, in lesser hands, a novelty building in the shape of a big brain. But Gehry is a better architect than that. His metaphor of the colliding village at the Stata Center is an apt and ingenious one that speaks of what's going on in science today as academic barriers between disciplines break down. It's well-thought-out and in no way shallow.

Nor is Steven Holl's sea sponge metaphor at



FabriTec
STRUCTURES

*Imagination
& Innovation
in Fabric
Architecture*

FabriTec Structures can help make your project concept a reality with virtually unlimited design options and applications. We utilize the most advanced architectural fabrics available to create structures that are practical as well as visually spectacular. Call on FabriTec Structures for:

- Complete Design / Build Services
- Customized Pre-engineered Structures
- Conceptual Design & Engineering
- Construction Documents
- Fast Track Capability

S
SWEETS

CONTINUING EDUCATION

FabriTec
STRUCTURES
11 FEBRUARY

CIRCLE 22 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

350 Kalmus Dr., Costa Mesa CA 92626 toll free 877-887-4233 fax 714-427-6983
www.fabritecstructures.com

Simmons Hall a novelty. By breaking up the exterior with porous concrete voids and “lungs” that contain student lounges, Holl redefines scale and avoids a “brick wall” reading. His color-coding of the building’s exterior in the form of a stress diagram accurately reflects the ingenuity of the engineering students who live there.

It’s true that the corridor system at MIT has served the school well. But so have its more daring designs, the ingenious chapel and auditorium of Eero Saarinen and the sinuous dormitory of Alvar Aalto.

Behind MIT’s recent building program is the desire to continue that tradition, not to commission novelty for its own sake. Many of the Institute’s buildings from the 1970s to the 1990s were not only bland and featureless, but ill-suited and inflexible for their intended purposes.

Neither Gehry’s nor Holl’s buildings are without their flaws, but ingenious daring is tougher to pull off, and less crowd-pleasing, than reworking familiar forms.

—Paul Restuccia
Boston

A well-deserved honor

I was quite thrilled to read in January’s Record News that Santiago Calatrava, FAIA, has been selected as the 61st recipient of the AIA Gold Medal [page 25]. The Spanish-born architect was long overdue to receive the award.

Over the years, Calatrava has been designing thought-evocative structures—structures that indeed test the limits of engineering, from the Alamillo Bridge in Seville, to the Auditorio de Tenerife in the Canary Islands, and everything in between. He is the master of this kinetic genre, embedding structures into sculpture in creating architectural icons for cities. His architecture can be described as the art and science of the built environment.

To this polymath, I say congratulations, and to the AIA I would like to say thank you for choosing to honor a man who has challenged architectural students around the world, myself included. Architecture honors a new kind of hero.

—Bobola Oniwura
Lagos, Nigeria

Exporting our dirty work

When are we going to stop the Cro-Magnon slicing and dicing of the architectural profession [“Are We Exporting Architectural Jobs?” January 2005, page 82]? Design and competitions are “good”? Details and construction are “bad”? As architects, we beat our chests at how we’re looked upon as effete elitists, and then we chop up the drawing process and send the “bad” parts out so architects in other countries can spend more hours and get less pay to do our dirty work. Not only that, but we’re doing it at the expense of our own future graduates. Construction and detailing are not the enemy. We should be embracing these portions of the design process to produce better buildings. Period. Sending construction documents overseas only further distances us from creative solutions by rewarding repetition and trite designs. Let’s leave Wal-Mart at Wal-Mart.

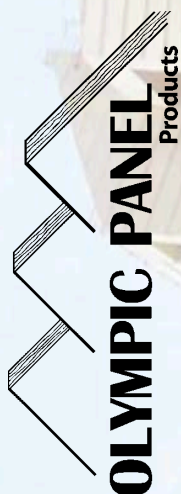
—Patrick Stuart
Design Director
Neighborhood Design Center
Columbus, Ohio

Corrections

The photographer cited for Casa Cocoon in the April feature “Five Cubes and a Blimp” [page 116] should have been Mark Munro, not Mark Mulder. The February feature on Jim Cutler [page 72] misstated the name of the landscape architect for Bill Gates’s residence. He was Tom Berger of The Berger Partnership.

Write to rivy@mcgraw-hill.com.

Regional Sales:
West (800) 782-9378
North (800) 445-2442
South (800) 782-7265

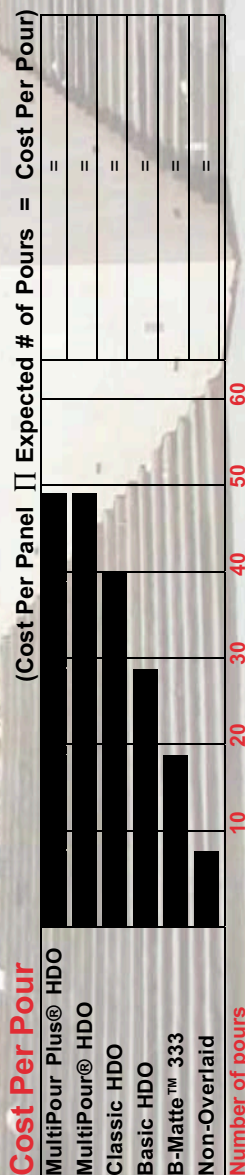


OLYMPIC PANEL
Products

Visit us at www.olympicpanel.com

Are you looking for a company that has a family of forming panels to meet all your concrete finish needs?

No one knows concrete forming panels better than Olympic Panel Products...50 plus years! We have introduced more overlay panel technology than any other panel company. With a wide range of panel designs, you can be confident we have the correct panel for each application.



Arboreal™

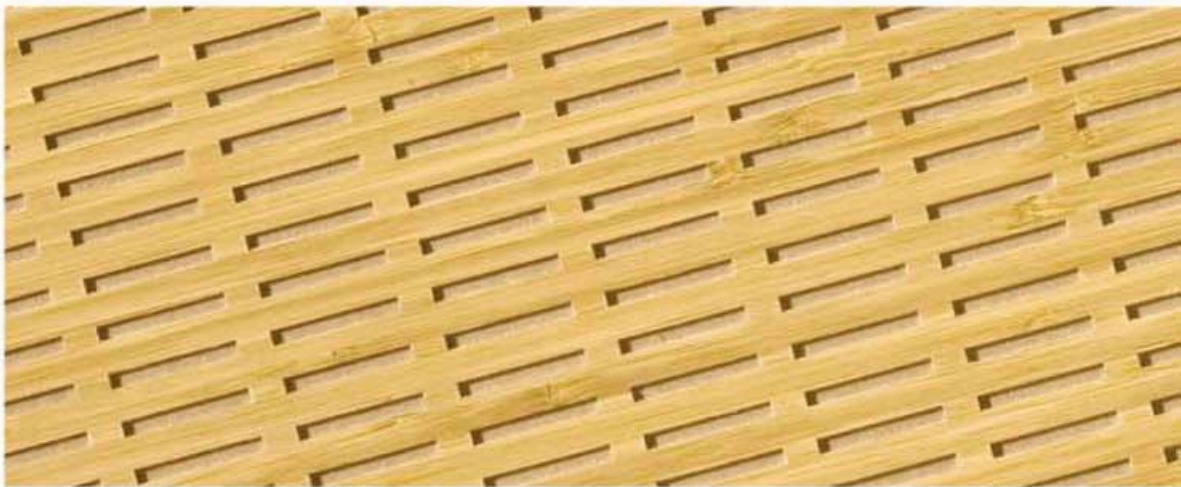
Bamboo Forest



plus
Recycled Aluminum



together, **Arboreal™**



Innovative use of resources. Brilliant wall and ceiling solutions.

- Sustainable
- Variety of real wood veneers
- Wall and ceiling systems
- Curved or flat
- Acoustical
- Lightweight
- Class 1 Fire Rating
- Accessible
- Affordable

CEILINGS PLUS™

800-822-3411

323-724-8166

www.ceilingplus.com

In This Issue:

Pages 284 – 291 **Factors for Achieving Water Conservation Excellence: Why—and What—Today's Architect Should Know About Plumbing and Its Relationship to Sustainable Design**
Sponsored by Sloan Valve Corporation

LEARNING OBJECTIVES:

- Understand the architect's role in water conservation
- Recognize what is required to earn points for LEED-NC Water Efficiency Credit 3
- Understand how to calculate Baseline and Design Case indoor water consumption



Pages 293 – 297 **Greater Vision: Alternate Window Materials in Commercial Buildings**
Sponsored by Pella Corporation

LEARNING OBJECTIVES:

- Understand window selection criteria and its impact on your projects and clients
- Identify primary advantages and disadvantages of different window framing materials in commercial buildings
- List and compare the advantages and disadvantages of sealed insulating glass and dual glazed systems
- Establish a method to determine the most appropriate window system for future projects



Pages 299 – 303 **The Art of Product Research and Selection**
Sponsored by Sweets Product Marketplace

LEARNING OBJECTIVES:

- Explore methods and best practices on the art of product research and selection
- Analyze product evaluation criteria used by established architectural firms and seasoned design professionals when specifying products
- Understand information typically required for approval of product substitutions on projects
- Review the types of product information generally required during various project phases



Online:

Vertical Materials Handling Systems aka Dumbwaiters.

Sponsored by Matot, Inc.

To access this article online, please visit:

archrecord.construction.com/resources/conteduc/archives/0505matot-1.asp

LEARNING OBJECTIVES:

- Have a general knowledge of different vertical material handling systems and when to use them
- Identify key design and planning criteria
- Discuss the benefits of using vertical material handling systems



This month at archrecord.construction.com



Temple Bat Yahm Chapel and Campus, Courtesy Lehrer Architects

Building Types Study

This month we feature Sacred Spaces. See how architects now understand that simple is often more powerful than complex when it comes to expressing what is hallowed. On the Web, we feature an additional six projects not available in print.

Daily Headlines

Get the latest scoop from the world of architecture.



Project: City of Santa Cruz Accessory Dwelling Unit Program, Courtesy RACESTUDIOS

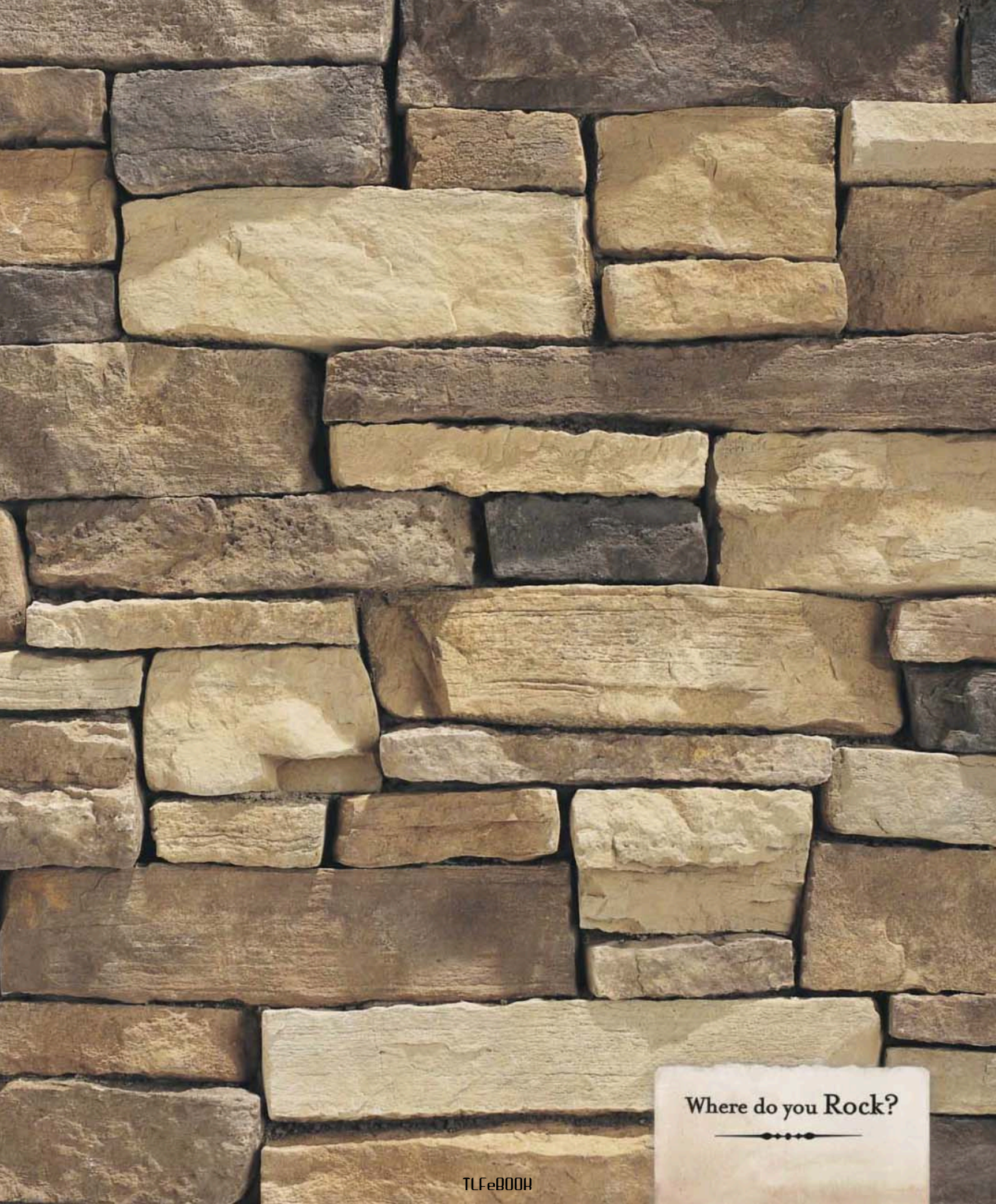
AIA Honor Awards

This month our Web site features the 2005 AIA Honor Award Winners. Have a closer look at the winners in the categories of Architecture, Interiors, Urban Design, 25-year Award, and Firm of the Year. Also in archrecord2, learn more about the five architects who have been awarded the 2005 Young Architects Award.



Philip Johnson

Discover what three longtime observers of Philip Johnson—an admirer, a detractor, and his biographer—have to say about this famous figure's career. Also, revisit the 2001 interview AR had with Johnson that is exclusive to our Web site.



Where do you Rock?



TLCeB00H

Grand Entrances
Wine Cellars
Outdoor Living Spaces
Porte Cocheres
Kitchens
Living Rooms
Breakfast Nooks



Your imagination and Eldorado Stone. It's a really good fit. For a quick tour of innovative Eldorado installations, go to eldoradostone.com/walkthrough.

CIRCLE 25 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

See it. Believe it. Spec it.
800.925.1491



A HEADWATERS COMPANY

TLCe800H

Durango Mountain Ledge with a
dry-stack grout technique



The Most Believable
Architectural Stone Veneer
in the World.™

TLCe800H



Form follows function into
every corner of the Viking kitchen.



Viking products look beautiful. But rest assured, plenty



of substance lies

beneath those gleaming exteriors. Viking originated professional performance for the home. And

only Viking offers a



complete professional



kitchen. Well, two of them, actually.

Both the heavy-duty

Professional Series and

sleek Designer Series deliver ultra-

premium features

and design consistency. Both lines are built to the same specifications.

So no matter which style your client chooses, you know exactly what you're working

with. And up to 14 exclusive finishes give you even more options to achieve perfection.



vikingrange.com

CIRCLE 26 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

TLEB00H

Ever wonder what the gates of hell are made of?



Your fire closures shouldn't cause uncertainty - specify emergency response products that you can rely on. Cornell's business is closure products and, for over 175 years, we've proven time and time again that we'll be here for you until hell freezes over.

Cornell. Your single source for Emergency Response Closure Products.

CORNELL
SAFE AND SECURE

800.233.8366 www.cornelliron.com

Contact us to receive our new
Emergency Response Products Brochure.

VISIT US AT AIA, BOOTH #3131

CIRCLE 27 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

COLLABORATE

For career opportunities, please visit
www.hdrinc.com/architects

AAP EOE M/F/D/V



ONE COMPANY | *Many Solutions*SM

CIRCLE 28 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

f a s h i o n u n d e r f o o t



-  Indusparquet®
3/4" Prefinished Solid
-  Indusparquet®
5/16" and 7/16" Prefinished Solid
-  Casanova Engineered
-  BR-111™ 5/16"
Prefinished Engineered

BR-111™ exotic hardwood flooring

CIRCLE 29 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

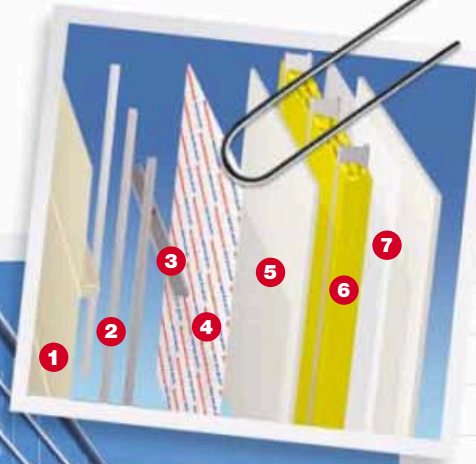
800-525-br111 (2711) ■ www.br111.com

TlFeB00H



LESSON: *Thermal + Moisture Control*

Each wall component multiplies your risk of failure.



*Formawall™ Dimension Series®
is the one-component wall that works.*

What could go wrong? For starters, building wrap rips, fasteners puncture, tapes fail, sheathing is penetrated, steel studs are thermally inefficient and can be sites for condensation, insulation soaks and caulking cracks.

Instead, CENTRIA Formawall Dimension Series compresses the multi-component cavity wall into a single, non-absorbent metal and factory-foam-insulated wall panel. How? A thermally efficient core combined with impervious metal faces, create an air and vapor barrier on the inside and a rainscreen element on the weather side. The side joinery is pressure equalized and has factory seals which connect panel to panel. The result is one, insulated, integrated, lightweight, and easily installed component that defeats water penetration for good without relying on exposed sealants, cavities, or wraps.

Learn more about avoiding moisture problems in exterior walls with the CENTRIA Institute's *Studies In Advanced Thermal & Moisture Control*. The handbook is free for architects, contractors and building owners with a phone call to CENTRIA today.

CIRCLE 30 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/




CENTRIA

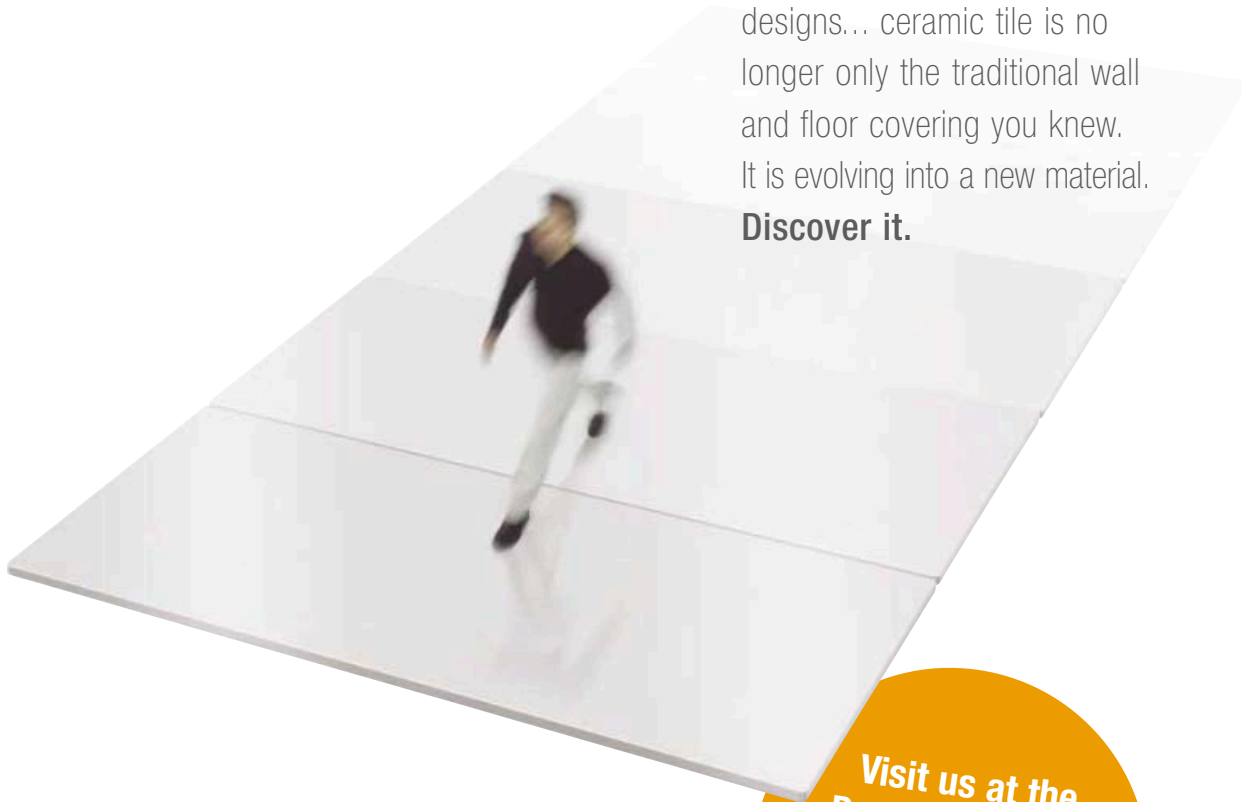
www.CENTRIA.com

North America **1.800.752.0549** China **+86 (0)21 5831 2718** Dubai **+971.4.339.5110**
TLFeBOOK

a new material

We are developing
the ideas of the future.
Giant formats, ventilated façade
systems, metallic surfaces,
extreme resistance, exclusive
designs... ceramic tile is no
longer only the traditional wall
and floor covering you knew.
It is evolving into a new material.

Discover it.



**Visit us at the
Pavilion of Spain
at AIA in Las Vegas,
May 19-21,
Booth #4046.**



tile of spain®

a new material

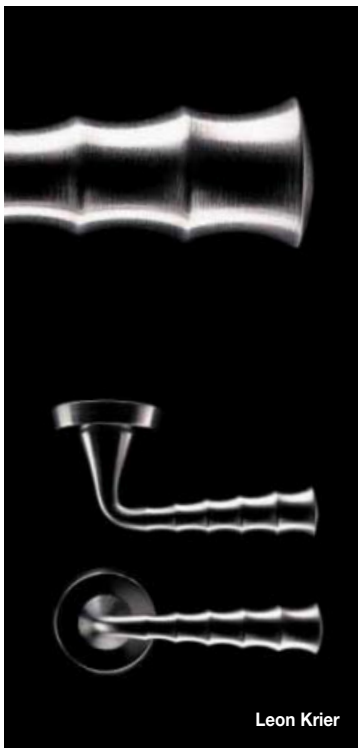


**Maniglie
Accessori del mobile
Arredobagno**



Valli&Valli

www.vallievalli.com



Leon Krier

Maniglie d'autore

Eero Aarnio
Ron Arad
Gae Aulenti
Mario Bellini
Cini Boeri
Achille Castiglioni
Cerri & Associati
David Chipperfield Architects
Antonio Citterio
Droog Design-Ronald Lewerissa
D'Urbino-Lomazzi
Foster and Partners
Massimiliano e Doriana Fuksas
Frank O. Gehry
Michael Graves
Gregotti Associati
Hans Kollhoff
Yoshimi Kono
Leon Krier
Chi Wing Lo
Vico Magistretti
Angelo Mangiarotti
Richard Meier
Renzo Mongiardino
Jean Nouvel
John Pawson
Gustav Peichl
Piano Design Workshop
Andrée Putman
Alan Ritchie-Philip Johnson Architects
Aldo Rossi
Sottsass Associati
Taller Design Ricardo Bofill
Matteo Thun
Marco Zanuso



Fusital



Alan Ritchie-Philip Johnson Architects

Valli&Valli

Valli&Valli (U.S.A.) Inc.
150 East 58th Street, 4th floor
New York, NY 10155
Tel. (212) 326 8811
Fax (212) 326 8816
Toll free: (877) 326 2565
sales@vallivalli-us.com

CIRCLE 32 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

TlFe8004

- p. 53 **Ellerbe sues HOK over firm defections**
- p. 54 **AIA to investigate decline in new licenses**
- p. 56 **Florida group fights against McMansions**
- p. 66 **On the Boards: Vegas**

Is Renzo Piano America's default architect?

American museums seem to be operating on a new architectural principle lately: If there's any doubt about the design of your new addition, hire Renzo Piano.

In the past year, the Italian architect has received expansion commissions from the Whitney Museum of American Art in New York City, the Los Angeles County Museum of Art (LACMA), and the Isabella Stewart Gardner Museum in Boston. Last year, he completed the graceful Nasher Sculpture Center in Dallas [RECORD, January 2004, page 100], and his firm, Renzo Piano Building Workshop, is now working on the Morgan Library expansion in New York City (opening next spring); the High Museum Expansion in Atlanta (a 177,000-square-foot project opening this fall); the glass, steel, and limestone Chicago Art Institute north wing addition; the California Academy of Sciences expansion in San Francisco; and (though it's in jeopardy) the expansion of Harvard's Fogg Art Museum in Cambridge,

Massachusetts. He is also rumored to be the favorite to design a new space for the Barnes Foundation in Philadelphia.

"It seems he's the only game in town," says Ken Carbone, of Carbone Smolan Agency in New York, which advises on museum projects throughout the country, including Piano's work in Atlanta. Most museum leaders point out that Piano's exalted status in their community is well-deserved. Directors point to several factors, first among them design, in which Piano creates intimate spaces that elegantly highlight the art inside. A good example is the Menil Collection (1987) in Houston, an intimate glass-and-concrete box whose pristine interiors are flooded with rich layers of light. Such work seems especially popular as the tide begins slowly to shift against flashy "destination" museums that often overwhelm the work inside.

Another factor is that Piano, known for working well with museum officers and coming in on budget

with popular designs, has become a sure thing in a field that is often without certainties. James Cuno, director of the Art Institute of Chicago, points out that museum after museum extols his work, charisma, and negotiating ability.

But some feel the choice of Piano is more about playing it safe with a familiar name. Carbone notes that some American architects are getting fed up with what could be called the "knee-jerk" choice of Piano (as well as the recent dominance of other foreign firms in the U.S. museum market, such as Herzog & de Meuron). "You'd like to think there's somebody else out there," he says, pointing to only a handful of American architects getting recent museum commissions, like Frank Gehry, FAIA, and Polshek Partnership. Richard Gluckman, who also submitted a design for the Whitney addition, claimed that the museum had promised him a chance to compete for the commission but changed its mind when Piano came into the picture.

While most admire his work, some architects wonder whether Piano's multitude of U.S. projects will begin to look formulaic, which he says will never happen. "The differences between my buildings are immense," he says, pointing to the LACMA project, which creates a new gardenway as a centerpiece, and the Whitney Museum, which opens up to the surrounding urban environment, as examples. "Some people like to make generalizations, but they're not looking closely enough," he adds. Piano also resents being regarded as a "safe choice." "Making museums that work for art, that are simple, subtle, serene, doesn't mean they are not ambitious buildings," he says.

As for his grip on the U.S. museum market, Piano notes his close work with local firms like Fox & Fowle and Beyer Blinder Belle, and says he has no ambition to monopolize projects. "We are actually very reluctant. We take very little of what is offered to us. I never try to do more than I can." *Sam Lubell*



Piano completed the Nasher Sculpture Center in 2004 (top left). Upcoming projects include additions to the High Museum in Atlanta (top center, at rear), the Art Institute

of Chicago (top right), and the Los Angeles County Museum of Art (left), which includes the removal of a parking garage and street to create a new park.



Dramatic expanses
always intensify the beauty.

True™ Acoustical Ceiling Panels

Subtle. Soft. Serene. True™ Acoustical Ceiling Panels from USG are designed with a minimal grid reveal that creates stunning monolithic beauty to dramatize other design elements in the room. And with enhanced acoustical performance, the ceiling is as quieting as it is attractive. For more inspiration, visit www.usg.com or call 877 USG.4200.



A partnership sours: Ellerbe sues HOK over firm defections

Minneapolis-based Ellerbe Becket says the defection of five key principals from its Kansas City sports architecture office to its rival HOK violated agreements the company had with its staff and with HOK, according to a lawsuit filed on March 16 in Missouri state court. The lawsuit asks a judge in Kansas City to impose damages and issue a court order stopping the five defectors from using confidential information or



Both firms worked on the Kansas City Arena.

interfering with Ellerbe's clients and employees. It also charges the five with breach of contract, interference with a contract, and breach of fiduciary responsibility.

HOK officials could not be reached for comment. Michael Katz, an attorney for Ellerbe, declined to comment while the matter was still in court. According to the lawsuit, St. Louis-based

HOK first secretly negotiated with David J. Orlowski, the head of Ellerbe Becket's Kansas City office and chief of sports architecture. The other employees involved—Brad A. Clark, Michael R. Clay, Stephen F. Hotujac, and Michael W. Sabatini—were recruited shortly afterward, the lawsuit claims.

Last October, Ellerbe and HOK started work on the new Kansas City arena project [RECORD, November 2004, page 44], a collaboration that put the two staffs in close contact, claims Ellerbe. The two firms and "other firms involved in the project agreed that each firm would not employ or solicit to employ any employees from the other firms working on the project," the lawsuit states. Nothing was put into writing, however, and the lawsuit suggests the agreement was sealed with a handshake.

After allegedly negotiating with Orlowski, HOK's "raid" grew to include the other principals. Meanwhile, Ellerbe's Kansas City office suffered yet another setback when architect Ron Gans left on March 28 to join 360 Architecture, one of its joint-venture partners in a new Kansas City arena project.

"Ellerbe Becket has depth," says Stuart Smith, company spokesman. "The departure of Ron and the principals will open up new opportunities for promotion." Indeed, in mid-April, Ellerbe announced a slew of internal promotions to bridge the staff shortfall. *Richard Korman/ENR, with additional reporting by Tony Illia*

Goldman halts construction on Lower Manhattan tower

Pei Cobb Freed's 40-story, \$2 billion Lower Manhattan tower for investment banking firm Goldman Sachs appears to be in jeopardy. On April 4 the firm halted imminent construction on the project, located on the northwest corner of Vesey and West Streets, contending that it cannot move forward until some unresolved questions about surrounding development are answered.

The prime question, says Goldman Sachs spokesperson Peter Rose, is the location of a planned vehicular tunnel—a result of submerging West Street—that now appears to head under the building's main entrance. The location, says Rose, would be dangerous and inconvenient for pedestrians, and would take away from the building's visual impact. Other issues include questions about the Freedom Tower's design and the configuration of the World Trade Center site as a whole.

The site of the firm's glass tower, which will consolidate its many area offices and provide larger

trading spaces, is the last vacant commercial parcel in Battery Park City, set to be located just west of the Freedom Tower. Joanna Rose of the Lower Manhattan Development Corporation says, "We're working hard to address those concerns, and we're confident we will be able to resolve them." S.L.

Jets begin moving forward with new stadium

The Metropolitan Transportation Authority on March 31 approved the \$720 million sale of its West Side rail yards in New York City to the New York Jets, clearing the first of many hurdles in the team's effort to build its \$1.9 billion, 75,000-seat stadium on the site. On April 11, the Empire State Development Corporation, a New York State Agency, also authorized the transaction. S.L.



Ice Hotel Sweden

Create dramatic expanses with TRUE™ Acoustical Ceiling Panels from USG, and you could experience another dramatic venue—the Ice Hotel Sweden.

- Grand Prize is an 8-day trip to Sweden, including a night in Ice Hotel Sweden (Winter 2006-07)
- Entries will be accepted from March 1, 2005 through May 1, 2006
- Winners will be announced at NeoCon® 2006
- Visit www.usg-true.com for official rules and entry form

Win the True trip of a lifetime.

Call for Entries



Pathways® Architectural Solutions. Intelligent, sustainable, affordable.

It's a fact: Construction and demolition wastes comprise about 40% of the total solid waste stream in the U.S. But until now, it's been difficult to create aesthetically pleasing, economical spaces without drywall and fixed construction elements. Finally, there's an alternative you and your clients will love: Pathways Architectural Solutions, a complete portfolio of walls, floors and wiring designed to work together. Here are the kind of results you can expect from this flexible interior solution, compared to traditional construction:

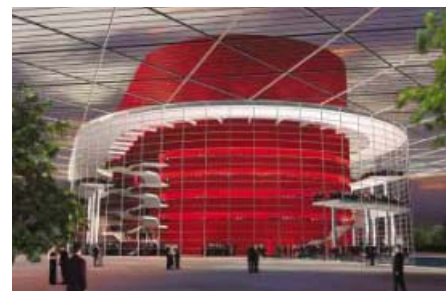
- Breakeven within 24 months
- 100% reusable — no landfill waste
- 30% less time for initial build-out
- 50% faster reconfiguration
- Pathways Access Floor, with under-floor air, can cut HVAC energy costs 30%
- Up to 70% faster installation of Pathways Modular Power and Zone Cabling
- Pathways Privacy Wall provides acoustics superior to drywall
- Lighting solutions from Lightolier® can produce energy savings of over 50%

To learn more about a smarter way to build for the future, visit us at steelcase.com>products>architectural solutions.

Steelcase®

©2004 Steelcase Inc.

Record News



Chill between Koolhaas and Foster could hurt Dallas project

What was conceived as a dream marriage is starting to look like an episode from *Divorce Court*.

In 2001, the Dallas Center for the Performing Arts commissioned Rem Koolhaas's Office for Metropolitan Architecture and Foster and Partners to design its new multiform theater (left) and opera house (right). Center officials touted the collaboration as a provocative union of techno sleekness and messy vitality, and the firms also agreed to work together on a master plan for the public spaces between their buildings. Skeptics pointed out that Foster and Koolhaas didn't care for one another's work, or one another, and that a fruitful collaboration was probably a long shot. It looks like the skeptics may have been right.

Although fund-raising is marching along and both buildings are in design, architects for the two firms rarely turn up in Dallas at the same time, preferring to communicate by e-mail, conference calls, and intermediaries. The situation is frustrating arts-center officials, who complain privately about poor coordination and "once-a-month access" to the

decision makers. "We'd all be much happier if the two firms were comfortable sitting in the same room together," says one participant.

OMA's theater is in design development, an 11-story aluminum-skinned cube with a 600-seat performance space at street level and offices, rehearsal rooms, and a café stacked above. The opera house—a glowing red ellipse wrapped in shimmering glass—is further behind, in part because of uncertainty about the size and cost of an exterior sunscreen, which has fluctuated from a restrained eyebrow to a sprawling, freestanding structure covering roughly 4 acres. Further languishing are the streets, plazas, parks, and other public spaces that will connect the cultural monuments. Koolhaas and Foster had lobbied for control over the master-planning process, only to virtually ignore it thus far. After two years, there is still no site plan, and landscape architect Michel Desvigne has presented only a few renderings. The Performing Arts Center is scheduled to open in 2009. *David Dillon*

Proposed resolution would address decline in new licenses

A resolution will be presented at the American Institute of Architects (AIA) National Convention in Las Vegas (May 19–21) that will attempt to address the issue of the decreasing number of people obtaining licenses to practice architecture, and the dearth of data available on the topic.

The number of initial licenses issued nationally was 2,820 in 2002 and 2,470 in 2003, according to the National Council of Architectural Registration Boards (NCARB). The resolution also notes that little state registration data has been made publicly available. Resolution 05-1, sponsored by the AIA California Council, the Boston Society of Architects, and AIA Massachusetts, calls for the AIA and NCARB to work with individual state boards to conduct a survey of newly licensed architects over the past 10 years, to be updated annually. It also calls for the AIA to assess the impact of the decline in the number of newly licensed architects on the profession and on the AIA.

The resolution is, in part, a response to a problem that is especially acute in California, where the number of newly licensed architects declined rapidly in the 1990s, from 1,339 in 1989 to 398 in 2004. John Cary, a member of the AIA California Council board of directors, is presenting the resolution. "This resolution is first and foremost about raising awareness of this potentially fatal trend," Cary says. "Whether the convention delegates pass the actual resolution or not, they will be sending a very clear message about how much the AIA truly values registration." *John E. Czarnecki, Assoc. AIA*

IMAGES: COURTESY DALLAS CENTER FOR THE PERFORMING ARTS FOUNDATION

**The biggest difference between your office and this one?
You can change this one without a sledgehammer.**

Pathways® Architectural Solutions
Walls, floors and wiring that are moveable, sustainable, economical.
Truly, the smarter way to build for the future.
800.333.9939 www.steelcase.com
TLFeB00H

Steelcase®

Do what you do better.™

INTRODUCING WOOD BALANCED DOORS



Wood doors that use the renowned
Ellison Balanced Door hardware
and frames are now available.
For information on wood selection
and door design contact our factory.

ellison
Ellison Bronze, Inc.

800-665-6445
www.ellisonbronze.com

CIRCLE 35 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Record News

Pritzker and AIA Gold Medal winner Kenzo Tange dies at 91

On March 22, Japanese architect Kenzo Tange died at age 91. The prolific designer, known for engineering skill and inventive use of materials and forms, will be remembered for his accomplishments both as an educator and as an architect.

Born in Osaka in 1913, Tange studied architecture at the University of Tokyo. He established himself as a field leader with the 1955 completion of the Hiroshima Peace Center, a Modernist masterpiece that memorialized the city's 1945 decimation. Tange's swirling concrete stadium for the 1964 Tokyo Olympics, an engineering marvel, became a symbol of Japan's postwar prosperity. In 1990, Tokyo City Hall, a 48-story pair of towers, became an instant landmark in a city where individual buildings rarely stand out.

Tange received the AIA Gold Medal in 1966,



Tange's St. Mary's Steel Cathedral in Tokyo is stainless steel, with thin limestone-framed windows.

the Pritzker Prize in 1987, and Japan's Praemium Imperiale in 1993. In 1963, he returned as a professor to his alma mater, where his students included Arata Isozaki and Fumihiko Maki. Maki notes: "I think Tange was one of few architects able to create sublime space through the spirit and technology of Modern architecture." *Naomi Pollock*

Florida group commissions alternative to "McMansions"

Fed up with the spread of huge, formulaic "McMansions," a Florida group called NAMBIES United (Neighbors Against McMansions: Big Invasive Eyesores) recently juried a competition for a house design that could potentially help replace the behemoth residences going up in

"I believe that people see value not just in square-footage, but in totality of use," says Mateu. "You're outside enjoying the vistas, where the others are in a giant box watching TV."

The 16 organizers/investors now plan to build the new house and sell it on the market. They hope the design will become a model for replacing the now-familiar practice of filling development parcels with huge houses in order to create maximum profit (since land is a fixed cost, the larger the house, the less the price per square foot). "A lot of architects are sick of building these cookie-cutter houses," says NAMBIES United spokesman Andy Parrish. Mateu adds, "I think we are going to see more people demanding this. People will realize they don't really need all this space. Often it's just wasted."



Mateu's design takes advantage of the local climate.

their Coconut Grove, Florida, neighborhood. While Coconut Grove isn't known for McMansions, the area's popularity is luring more residents, and developers are beginning to knock down smaller houses, replacing them with lot-dominating ones.

The competition drew 53 entries, and on March 1, local architect Roney Mateu was named the winner for his sleek, white home wrapped around a courtyard. Mateu's 4,500-square-foot, two-level, L-shaped house includes balconies, extremely large windows, long vistas, and a pool with a significant grassy area, all maximizing, says the architect, the area's surrounding environment.

Ironically, NAMBIES United had chosen a 3,000-square-foot design by architect George F. Reed late last year, but later decided his project was too small and involved costly custom woodwork, hence it wouldn't make enough profit.

"We bumped up against the hard realities of building in today's market," says Parrish. "A smaller design doesn't leave you much room for profit."

Mateu's house, which he calls the Casa Onaway (for the street it sits on) is now moving forward, with construction drawings completed, construction set to begin in late May, and completion expected six to nine months later. *S.L.*

Meet the Door with a Split Personality

Power operation only when you need it.
Balanced door operation when you don't.



POWER
NOW
Patent Pending

Power Now is a classic balanced door during manual operation, and opens with power only when needed.

Our revolutionary design eliminates complicated, unsightly surface mounted hardware. A concealed low energy operator and actuating arm provide opening force on demand.

Our standard hardware provides the closing force. When used manually Power Now is pure Ellison.

ellison

Ellison Bronze, Inc.

www.ellisonbronze.com

CIRCLE 36 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

HIT THE SWITCH

power opens the door on demand, ellison closes it.



TlFe800H

QUILITE® Noise Barriers

QUILITE® is a beautiful solution to noisy problems

- Translucent Noise Absorbing Sound Barriers
- Reduces Echo By More Than 50% Transmitted Noise By More Than 80%
- Durable & Graffiti Resistant, Minimizing Costs
- Both Panel Sides Are Identical Design
- Shipped Complete And Ready To Easily Install
- Integrates Easily Into Architectural Designs



QUILITE® International Noise Barriers
 8616 La Tijera Blvd. Suite 509 • Los Angeles, CA 90045
 Tel: 310-641-7701 • Fax: 310-641-7768 • www.quilite.com

CIRCLE 37 ON READER SERVICE CARD OR GO
 TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Record News

New program to encourage more pro bono work in architecture

For years, the legal and medical professions have offered pro bono resources to the less fortunate. The American Bar Association, for instance, encourages lawyers to each contribute 50 hours a year in free legal counsel and other support. Many firms even have their own pro bono managers.

But while many architects and their firms have been involved with similar efforts, the architecture profession as a whole has mostly stood on the sidelines. Until now.

On March 31, Public Architecture, a nonprofit hosted by San Francisco-based Peterson Architects, launched the "1% Solution," which challenges architecture firms to pledge 1 percent of their billable hours to the public through pro bono work. This works out to about 20 hours a year per employee, and could collectively add up to more than 5 million hours annually, the group says. Pro bono help can include just about anything: design of churches, schools, and parks, and even graphic design support or general consulting.

The fact that architecture has no such organized program at this point was "stunning" to John Cary, executive director of Public Architecture. The new project grew out of his organization's conversations with architects. Cary adds that it focuses on firms rather than individuals, recognizing that firm policies are the key to getting employees involved.

"It's not a solo pursuit," he says, adding that the effort will also help improve firm culture and give younger architects the chance to hone their skills as project leaders and hands-on workers.

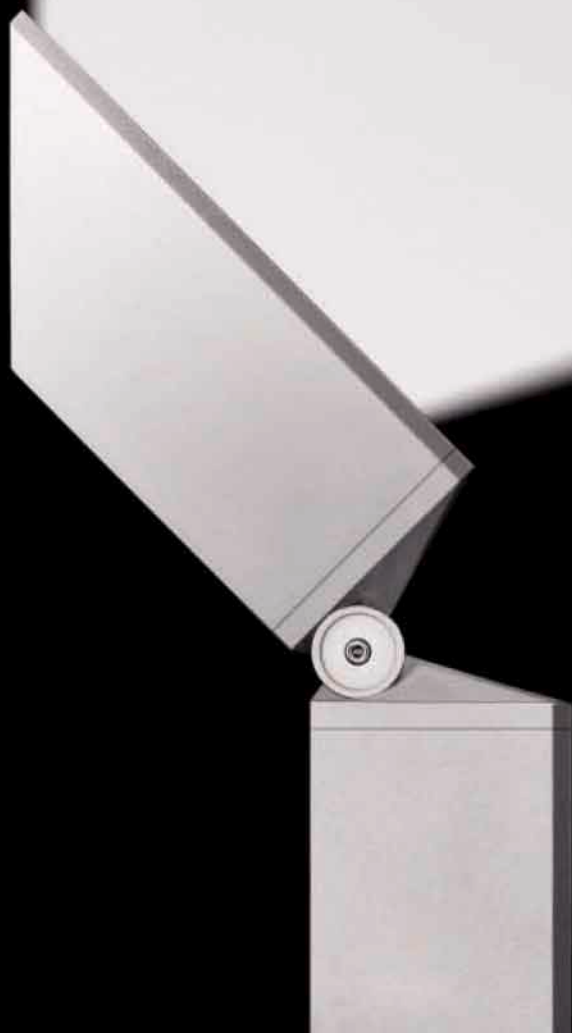
A grant from the National Endowment for the Arts has helped Public Architecture launch a Web site for the 1% Solution, www.theonepercent.org, recognizing firms' participation in the program (including school library projects for the Robin Hood Foundation by Tod Williams Billie Tsien with Weiss/Manfredi; the Skyscraper Museum by SOM; and a multifamily residential project in Seattle by Olsen Sundburg Kundig Allen) and providing information and guidance. In the future, the organization hopes to receive support from groups like the AIA and plans to provide case studies of successful pro bono work.

Since launching, the program has enlisted about 35 firms, with about 6,245 hours pledged. The largest firm to commit so far, Glendale, California-based Osborne, has 55 employees, but some larger firms are close to committing, says Cary. Nevertheless, he's a realist, noting that most architecture firms don't have the money to pledge as many resources to pro bono work as more lucrative professions like the law.

"That's why we have a 1 percent solution and law has a 2.5 percent solution," he says. S.L.



The program's Web site, www.theonepercent.org (left), tallies total hours pledged, and features pro bono project designers like Weiss/Manfredi and Tod Williams Billie Tsien.



Bollards with adjustable lamp enclosures
for illuminating vertical surfaces

Two sizes available for Ceramic Metal light sources

BEGA sets the standard

For a complete product brochure go
to www.bega-us.com
805.684.0533

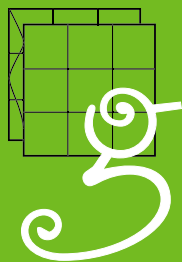
Circle No. 149

CRIMPED TO CURVE

the POSSIBILITIES
... are ENDLESS

NEW CATALOG
available now
AIA EXPO 2005 Booth 2927

greenscreen™



800.450.3494
www.greenscreen.com

Record News

New York's High Line reveals first look at its new plans



Walkways will blend organic and man-made materials.

The first phase of design has been unveiled for Manhattan's High Line, the 1.5-mile elevated railway destined to become New York's unique new public space.

Hashed out over the past six months by Field Operations and Diller Scofidio + Renfro, the designs were made public on April 20, and are on display at New York's Museum of Modern Art until July 18.

Phase I, which centers on the park's southernmost stretch, from Gansevoort to 15th Street, lays down a framework for the entire project: "Agri-tecture," the blending of organic and man-made materials enjoining a varied system of planked pathways with a diverse array of plant life.

"People will continuously meander through the landscape," explains Field Operations' James Corner.



"It allows us to create niches and little hideaways." The planks, made of precast concrete, will have gaps between them where they intersect with green areas, allowing spaces for flora to grow. This will create, says Corner, a "blending between the hard and soft materials—a landscape that isn't a simple division between path and garden."

The concrete paths, 8 to 15 feet wide, will be laid out in a winding flow with numerous splintering tributaries. The plant species chosen for the site should be "able to maintain their shape in all seasons," observes Friends of the

High Line (FHL) planning director Peter Mullan, in order to make a continuous visual impression.

Another important feature, says FHL codirector Joshua David, will be the varied points of access onto the High Line. Several entrances will stem from busy intersections, while "slow stairs" will "psychologically divide the street from the structure," Mullan adds. The FHL hopes to begin repairs and remediation of the structure by the fall of this year, with Phases I and II of construction to follow in mid-2006. *Ilan Kayatsky*

Replacing a highway with homes

San Francisco is hoping to exorcise the demons of past urban-planning mistakes with a housing design competition for the site of the former Central Freeway (top right), damaged during the 1989 Loma Prieta earthquake. The competition seeks ideas for nearly 1,000 new housing units on six parcels fronting Octavia Boulevard, a new tree-lined street under construction in the Hayes Valley neighborhood (bottom right) near the city's Civic Center. Two of the parcels will be developed as affordable housing; the remaining four will be sold to developers, who will be encouraged to partner with the winning designers.

The competition, sponsored by the San Francisco Prize—a collaboration between the AIA San Francisco chapter, the San Francisco Planning and Urban Research Association, the San Francisco Museum of Modern Art, and San Francisco Beautiful, a civic organization—also hopes to heighten the design ambitions of the city's infill housing projects, which are often limited by conservative aesthetics. Impetus came from the neighborhood itself and was encouraged by a \$55,000 grant from the city. This combination of government and local support makes this competition "more than just a hypothetical exercise," says Margie O'Driscoll, executive director of AIA San Francisco, noting, "It's amazing that the neighbors came to us." *Andrew Blum*



Even through the fiercest of storms,
there is a calm that endures.



build for life

www.kawneer.com

architectural aluminum systems • entrances and framing • curtain walls • windows

Design with
Natural Stone

Making the
Impossible
Reality!



- Original KUGEL Floating Ball
- Floating Objects
- Monumental Works of Art
- Granite Fountains, Waterwalls
- Natural Stone Elements
- Prestressed Granite
- Custom Design
- Complete Engineering Support



Magdeburg, Germany
Axis: Nero Assoluto granite, polished
Disc: Balmoral granite, honed
Scale 1:1.000.000
Artist: Timm Ulrichs,
Münster, Germany

Polar Axis of the Earth

800-919-0080
www.kusserUSA.com
kusserUSA@kusser.com

Record News

Conference examines architecture's threat to birds

By some estimates, collisions with buildings, bridges, towers, and other man-made structures claim as many as a billion birds annually in the U.S. alone. In mid-March, architects, building managers, public officials, conservationists, and ornithologists met in Chicago to discuss the huge toll the built environment exacts on the bird population.

Touted as the first conference devoted to the topic, "Birds & Buildings: Creating a Safer Environment" was hosted by the Illinois Institute of Technology. The conference provided a primer on bird behavior, highlighted "best practices" in design and operations, and fostered networking and brainstorming. Cosponsors included the Bird Conservation Network, the Audubon Society, AIA Chicago, and BuildingGreen.

Many birds migrate at night and are easily thrown off course (and into buildings) by artificial lights. Chicago, Toronto, and other flyway cities promote migration season "lights-out" programs, which have proved effective and cost-saving.

The major daytime killers are transparent and reflective surfaces. "The evidence is overwhelming that birds act as if they do not see clear and reflective glass as a barrier," says Daniel Klem, an ornithologist at Muhlenberg



Lighting rules in Chicago mitigate the Sears Tower's threat to fowl.

College, in Allentown, Pennsylvania.

Measures discussed at the conference, like sunshades, drapes, or artwork, can provide visual cues, as does netting. Thermal coatings and fritted glass can also prevent bird collisions while cutting energy use.

Clients tend to be unaware of the problem, says Bruce Fowle, FAIA, principal at Fox & Fowle Architects in New York, "unless they happen to own a building where there is a severe problem with bird collisions."

Science may hold the answer, according to Fowle. "The ultimate solution is to develop a cost-effective, nonreflective glass with a

wavelength, such as ultraviolet, that birds can see and we can't," he says.

Addressing this issue along with other environmentally sensitive design approaches can be a challenge, since the dictates of historic preservation and green building don't always align with bird-safe design, says conference organizer Randi Doeker, president of the Chicago Ornithological Society. "It's probably a little easier to work out, because nobody wants dead birds in front of their buildings," she says. "And like all of these things, the sooner you do it, the easier it is." *Ted Bowen*

Grimshaw takes Queens Museum commission

Nicholas Grimshaw has replaced Eric Owen Moss to renovate the Queens Museum, the historic former New York pavilion in the 1939 and 1964 World's Fairs in New York City's Flushing Meadows-Corona Park. Moss, who was dismissed after producing two redesigns of his original scheme, was the December 2001 winner of the first national design competition held by the New York City Department of Design and Construction (DDC). Grimshaw, in collaboration with local firm Amman & Whitney, was selected from a group of architects, including Fox & Fowle and SOM, who have standing contracts with New York City under the DDC's Design Excellence Program. Says Tom Finkelpearl, executive director of the museum since 2002, "We've been through a process of self-examination as an institution. We're not looking for an instant design at the beginning, but someone we're comfortable with in the process." Andrew Whalley, director of Grimshaw's New York office, notes, "The museum's objectives are different from their earlier work; the emphasis now has very much to do with the existing integrity that the building has. It's a robust structure that's stood the test of time." The museum plans, as before, to begin construction in 2007 and reopen in 2009. Finkelpearl adds, "We're not starting from zero." *Thomas de Monchaux*



Show off your **colorful** side.

Brilliant, unlimited color has arrived. Now Schindler offers color where it's never been before – skirts, decking, cladding, handrails, balustrades and even steps. An unlimited variety of colors will maximize your style options and enhance your environment. It's truly color in motion.

Add to this, the most advanced technology, including more than two dozen safety features, plus ease of installation and automatic drawing software and you have the Schindler 9300® Advanced Edition escalator. Schindler has always been the standard of performance. Now they're the standard for beauty. That, you can be sure of.

For all the **colorful** details e-mail Schindler at uswebmaster@us.schindler.com



Schindler

The Elevator and Escalator Company
(973) 397-6500 | www.us.schindler.com

CIRCLE 41 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

See us at AIA Expo 2005 Booth 452



chill™



landscapeforms®
800.430.6208 landscapeforms.com

UCSF's Mission Bay campus attracts long list of architects

Architects who come to San Francisco with ambitions beyond bay windows tend to get discouraged. But that doesn't appear to be the case at the new Mission Bay campus of the University of California, San Francisco, now rising on 43 acres of landfill and former rail yards just south of the city's downtown.

The campus has an ambitious design agenda, stemming from the need to attract faculty away from the main UCSF campus across the city, as well as the University of California's sense of civic obligation. The result—just now taking visible shape—is part architectural petting zoo, part reimagining of what an urban university campus can be.

At full build-out, expected around 2020, the Mission Bay campus will include 2.65 million square feet of space, constructed at a cost of \$1.5 billion, accommodating nearly 10,000 people working and studying in the sciences. The campus anchors the larger redevelopment of the 303-acre Mission Bay area into a mixed-use neighborhood, mostly targeted at the biotech industry. On the UCSF campus, a striking list of architects is at work, including Cesar Pelli, FAIA, Ricardo Legorreta, Bohlin Cywinski Jackson, Rafael Viñoly, FAIA, Peter Walker, STUDIOS, Stanley Saitowitz, EDAW, NBBJ, Smith Group, and Skidmore, Owings & Merrill. Each is following a master plan developed by Machado and Silvetti.

These days, the Mission Bay campus still looks like a downtown in Iowa, with bulky buildings dropped into a flat, open expanse. Genentech Hall, the first major academic research building, designed by ZGF and Smith Group, opened in January 2003; it was followed a year later by another lab building, Arthur and Toni Rock Hall, designed by Cesar Pelli. Both began to enliven the campus—and, crucially, increase its popularity among the initially wary transplants from the main UCSF campus—while major construction continued. This summer, the pace increases with the opening of four major buildings. The \$85 million, 165,000-square-foot community center designed by Ricardo Legorreta, serves as the focal point of the quad, with candy-colored walls and a symbolic campanile. Craig Hartman, FAIA, of the San Francisco office of SOM, has designed a \$112 million residence, with four narrow slabs surrounding a central courtyard. Bohlin Cywinski Jackson's \$97

million, 152,000-square-foot research building adjoins Genentech Hall. And Stanley Saitowitz's \$23 million parking structure leverages its central location to be a campus icon, with a channel-glass facade that resembles a DNA barcode. The buildings surround a pair of public spaces designed by Peter Walker and Partners, including a large grass quad and a paved plaza lined by retail, with a towering Richard Serra sculpture at its center.

Steve Wiesenthal, associate vice chancellor of facilities management and major projects at UCSF,



Pelli's Arthur and Toni Rock Hall (above). Walker's greenspace plans for the area (left).



Mission Bay explains that the diversity of campus architecture is meant to reflect how scientists and

students come together, with "a loose framework, but a variety of perspectives and backgrounds." Accordingly, Machado and Silvetti's campus plan dictates a consistent cornice height of 85 feet and emphasizes pedestrian connections between buildings and between the campus and the surrounding area, which currently consists mainly of vacant lots. But within that plan, each architect's unique expression has been encouraged. "The big question, adds Wiesenthal, is "how do we achieve a sense of individual identity for people, programs, and buildings within an overall unity?"

For San Francisco, the opening of the new buildings marks the next step in the long-awaited development of Mission Bay. "It's a whole new reality that the center of the city is moving south—which is a good thing, because downtown is largely built-out," says Jim Chappell, president of the San Francisco Planning and Urban Research Group. "I just wish the development were more urban. It has the feel of an office park, not a city street." *Andrew Blum*



©2005 Johnson Controls, Inc. ADP-2052

Whether you need one person or an army, we've got you covered.

Not every building is super complex, or shaped like a lug nut. That's why we offer scalable solutions to fit your specific construction or retrofit needs. A leader in systems integration and technology contracting, we have the dedicated system specialists to provide you with the flexibility, speed and responsiveness you demand. So even if you fall a little short of needing an army, we won't fall short meeting your needs. To find out more, call 1-800-972-8040, ext. 595.

CONSTRUCTION | SERVICE | FACILITY MANAGEMENT | FIRE ALARM & SECURITY | TECHNOLOGY | SYSTEMS INTEGRATION | ENERGY

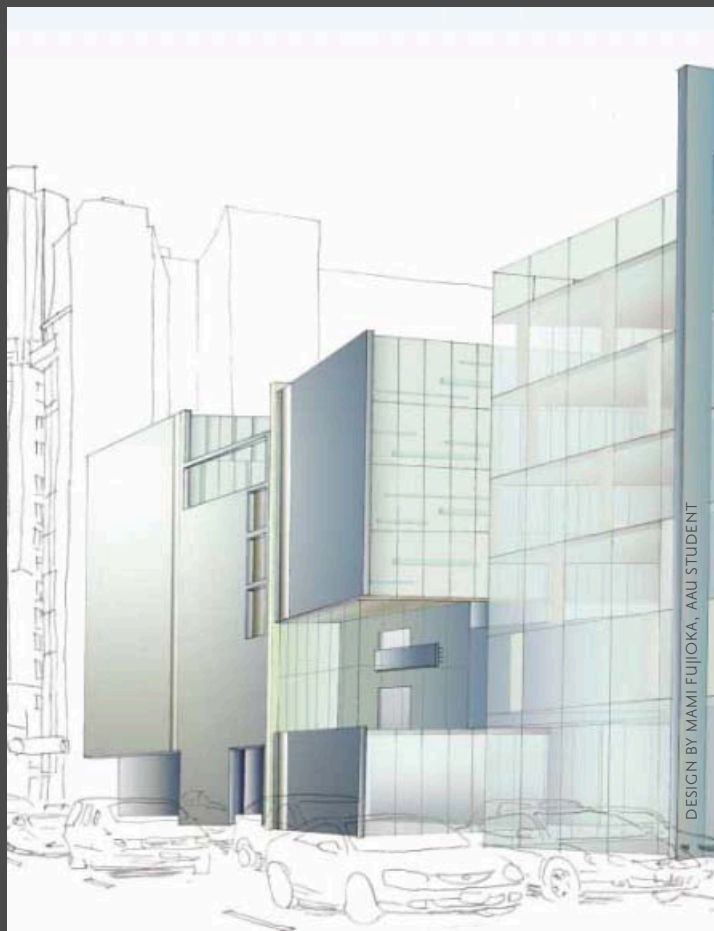
JOHNSON
CONTROLS

www.johnsoncontrols.com

CIRCLE 43 ON READER SERVICE CARD OR GO
TO ARCHRECORD.COM/STATION.COM/PRODUCTS/



SCHOOL OF ARCHITECTURE MASTER OF FINE ARTS



DESIGN BY MAMI FUJIOKA, AAU STUDENT

PROGRAM IN ARCHITECTURE

ARTISTIC | EXPERIENTIAL | ENVIRONMENTAL
TECHNICAL | PROFESSIONAL | ENDURING

REGISTER NOW FOR SUMMER & FALL SEMESTERS

ACADEMY of ART UNIVERSITY

FOUNDED IN SAN FRANCISCO 1929

1.800.544.ARTS | WWW.ACADEMYART.EDU

79 NEW MONTGOMERY ST., SAN FRANCISCO, CA 94105
NATIONALLY ACCREDITED BY ACICS, NASAD & FIDER (BFA-IAD)

CIRCLE 44 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Record News On the Boards: Vegas

Pelli's hotel-casino on Las Vegas strip will be centerpiece of massive development

The Las Vegas Strip is getting a sleek new architectural addition from Cesar Pelli & Associates, which is designing a 4,000-room hotel-casino (right) that will serve as the centerpiece of MGM Mirage's \$6 billion Project CityCenter development (see page 196).

Early plans call for two 60-story glass towers with panoramic views of the Strip. The nonthemed resort will also house a 150,000-square-foot casino, 15 to 20 restaurants, and a 2,000-seat theater for a Cirque du Soleil production. MGM Mirage executives expect the project cost to reach \$2.5 billion.

Pelli's project will anchor the 8-

million-square-foot Project CityCenter, launched in November. Situated on 66 acres, between the Bellagio and

Monte Carlo resorts, the development will include three 400-room hotels, 550,000 square feet of shops, dining, and entertainment venues, and 1,650 units of hotel-condominiums and private residences. Ehrenkrantz Eckstut & Kuhn Architects is the master-plan designer.

The pedestrian-oriented environment, with public squares, covered passageways, and rooftop gardens, is scheduled to break ground next year, and finish its first stage by 2010. *Tony Illia*



Behnisch's "Senscity" project will provide a lush complex in the desert

A new urban oasis may soon come to the Las Vegas desert. Stuttgart-based Behnisch, Behnisch & Partner is designing a 150-acre, mixed-use park that combines toy

and auditoriums. Natural barriers will separate the lush development from its dry surroundings.

Giant flowerlike structures (left) measuring up to 120 feet tall and 300 feet wide, will line the park paths, providing shade and cool-air relief. The structures will be built from prefabricated lightweight metal frames and posttensioned fabric. Evaporating water on their leaves will cool the park's air while creating downdraft airflows. The leaves can additionally be used as energy collectors, transforming radiation into electricity or heat during winter months. The project's development consortium is still finalizing the project's site, and the plan has received preliminary approval from Clark County, says Behnisch principal Christof Jantzen, AIA. Construction is expected to take three years. *T.J.*



galleries and entertainment venues with landscaped gardens and children's playgrounds.

The project, dubbed "Senscity Paradise Universe," will be a sustainable, energy-efficient environment consisting of terraced green areas, an artificial lake, and meandering paths. The site will also include family-oriented restaurants, theaters,

IMAGES: COURTESY MGM MIRAGE (TOP); COURTESY BEHNISCH, BEHNISCH & PARTNER (BOTTOM)



COLORKER

t e c h n o l o g y

www.colorker.com

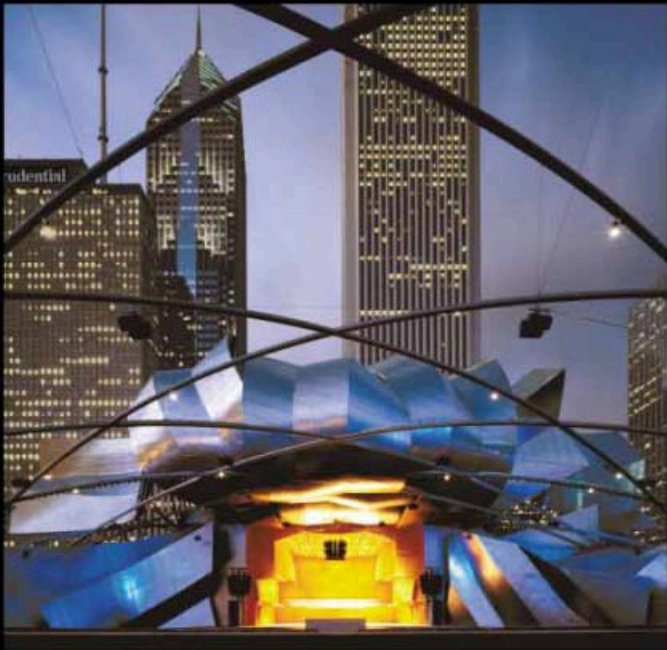


at the Tile of Spain Pavilion at AIA, Las Vegas, May 19-21, Booth #4046.

CIRCLE 45 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

TLFe000H

A WORK OF ART THAT ACTUALLY WORKS



Pritzker Pavilion, Millennium Park - Chicago

THEATRE PLANNERS
LIGHTING DESIGNERS
Schuler Shook



Chicago
312-944-8230

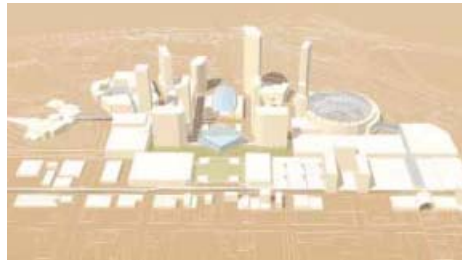
Minneapolis
612-339-5958

Dallas - Fort Worth
817-461-5442

schulershook.com

CIRCLE 46 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Record News On the Boards: Vegas



Plan envisions new Vegas center, away from the Strip

Downtown Las Vegas is expanding, becoming a dense urban core brimming with amenities and architecture, steering the image of the city away from the glitzy casinos that line the Strip.

In 2004, city officials selected The Related Companies to develop 61 acres once operated by the Union Pacific Railroad, about 5 miles north-east of the Strip. Boston-based Elkus Manfredi Architects designed the master plan, which calls for a new city hall, performing arts center, baseball stadium, 8.7-acre medical

campus, and residential, retail, and office space.

The performing arts center abuts the city hall's adjacent park, creating a strong central axis. Office buildings ring the central plaza, and 3,000 housing units fill out the urban plan. Parking will be hidden from view by placing

garages behind buildings and major lots at the edge of downtown.

Visitors will be encouraged to stroll the sidewalks, stop to eat at restaurants, and browse the shops. Taking advantage of the climate, extensive landscaping will enhance the outdoor experience.

According to Marty Burger of The Related Companies, the city hopes to complete the development in 2008, when, says Howard Elkus of Elkus Manfredi, "it will become the new iconic heart of downtown Las Vegas." *Larissa Babij*

Arquitectonica designing two new projects on Las Vegas Strip

New York developer Ian Bruce Eichner recently unveiled plans for a new \$1.5-billion, mixed-use hotel-casino-condominium project designed by Miami-based Arquitectonica on the Las Vegas Strip. Situated on 8.5 acres adjacent to the Bellagio, the "Cosmopolitan Resort & Casino" is scheduled to break ground in early 2005.

The 4-million-square-foot undertaking will consist of two 53-story aquamarine glass towers housing 2,400 time-share, condominium, and hotel units, ranging from 600 to 900 square feet in size. Paul Duesing Partners is the interior designer. There will also be a 70,000-square-foot casino, a 1,800-seat theater, and a 150,000-square-foot convention and meeting-room area.



The new development's twin, 600-foot-tall perpendicular buildings will be connected by a five-story low-rise with 300,000 square feet of space for retail shops, restaurants, and entertainment. The Cosmopolitan will be a "hip, boutique property," says Eichner, who also developed New York's Manhattan Club at 200 West 56th Street. The new project will have 400 feet of Strip frontage and a four-level, 3,000-space underground parking garage. It is scheduled to open by early 2008. *T.I.*

IMAGES: COURTESY ELKUS MANFREDI ARCHITECTS (TOP); 3700 ASSOCIATES (BOTTOM)



Zephyr MB1929LMPN

The
MICHAEL BERMAN
BATH COLLECTION

This unique collection, created exclusively for ROHL by legendary interior, furniture and restaurant designer Michael Berman, is inspired by the finest in 1920s and 30s industrial design. His "American Transitional" design seamlessly blends the traditional with the modern, integrating itself into a variety of architectural styles for a bold yet elegant design statement.

New York · San Francisco · Newport Beach · Milano
1.800.777.9762 · www.rohlhome.com

Sold exclusively through fine decorative plumbing
and hardware showrooms nationwide.

ROHL
The Experience of Authentic Luxury™



nextBOX challenges idea of "custom homes"

Las Vegas-based assemblageSTUDIO has designed nextBOX, a residential project in Henderson, Nevada, just outside of Las Vegas. Planned for a gated community where Spanish-style houses are the norm, the proposal challenges the developer's desire for "true custom homes."

The proposed 3,500-square-foot residence comprises two masses. The larger one is a "great room" containing a living area and theater. The second includes two

bedrooms and wraps up above the first, creating a "loftlike condition" as the bedrooms look into the great room. The exterior will be clad in charcoal zinc paneling, bent in places to create an organic shadow effect on the house.

The home was originally slated for construction this August or September. However, the owner has filed a court

appeal against the developer, who has denied the design, despite the fact that it meets all of the developer's guidelines.

"We feel it really comes down to matter of taste," says design architect Eric Strain. He adds, "The residential market for custom single-family homes hasn't really matured to the point where people want to create homes about who they are and how they really live."

Audrey Beaton

Vegas to convert old water springs site into nature preserve park

Las Vegas, which means "meadows" in Spanish, is transforming a neglected water springs site, about 2 miles northwest of the Strip, into a nature preserve park. The 180-acre area is considered the city's birthplace, having provided the valley with water. After the springs dried up, however, the area fell

\$200 million effort to restore the area, creating an urban central park with low-water desert gardens, sustainable demonstration buildings, recreation trails, and a wetlands area.

Locally based Lucchesi, Galati Architects is designing a five-building, 54,000-square-foot Desert

Living Center on the site to be built from earth-rammed walls and straw-bail construction, with angled roofs that collect rainwater for irrigation and wastewater management. Tate Snyder Kimsey Architects of Henderson is designing a two-building, 75,000-square-foot Visitors Center that uses weathered steel siding, lime-based plaster, and recycled glass. The project, overseen by the Las Vegas Valley Water Authority, is scheduled to open in late 2006, and seeks the highest possible LEED ratings. T.I.



The preserve's Visitors Center's interior.

into disrepair and faced being paved over as a freeway. Archaeological discoveries ultimately rescued the site, and local leaders have since launched a

IMAGES: COURTESY ASSEMBLAGE STUDIO (LEFT);
TATE SNYDER KIMSEY ARCHITECTS (RIGHT)

SatinTechTure™ an Arrangement Etched in Glass

Beauty and flexibility mean as much to the architect as the jazz musician.

SatinTechTure, Bendheim's exclusive new line of architectural glass, provides extraordinary elegance and design flexibility.

SatinTechTure etched glass styles can enhance a variety of architectural designs for commercial, retail, and residential applications. Whether the approach is traditional or contemporary, pragmatic or elegant. The crisp refined designs offered within the SatinTechTure line encompass both architectural and organic types.

Maintenance-Friendly.

Bendheim's exclusive etching process produces a permanent surface which prevents the absorption of grime, resists staining, and makes the glass easy to clean.

Now in stock for immediate delivery, SatinTechTure is available in tempered and laminated forms.

BENDHEIM since 1927
www.bendheim.com
See us at Booth #847

Bendheim East 800-835-5304
Bendheim West 888-900-3064

New York Showroom
212-226-6370



small

quiet

precise

new

NEW Sivoia QED™ roller 64™

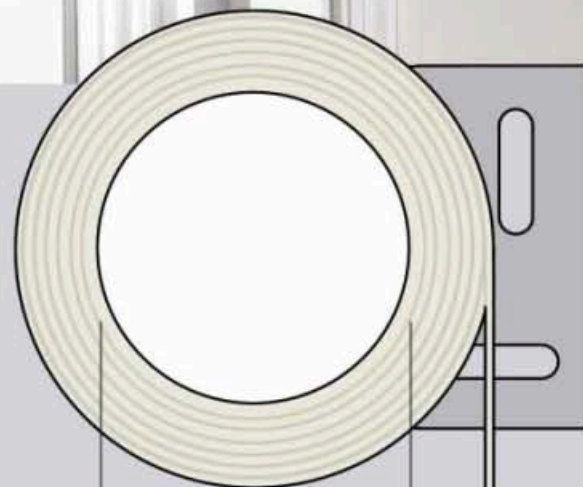
**Quiet, controllable precision shades
to fit any window.**

Adjust shade position at the touch of a
button for effortless control of sunlight.

- minimize glare
- provide privacy or view as desired
- protect furnishings from sun-damage
- integrate with electric lighting controls
- easily installs inside shallow window jambs

For more information on the Sivoia QED family of
precision drives for roller shades, draperies and
Roman shades call **1.877.258.8766** ext. **531**
or visit **www.lutron.com**.

© 2005 Lutron Electronics Co., Inc.



NEW 1 5/8"
roller tube

Fits into a 3 1/2" x 3 1/2" pocket.

 **LUTRON**
Lutron controls your light.™

CIRCLE 49 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

ILLUSTRATION

It's true! It will make a permanent change in the way you design.

Whether you're building or designing...

- *Schools & Universities*
- *5-110 Story Commercial or Residential*
- *Large Renovation Projects*
- *Hospitals & Hotels*



Marriott 3rd Avenue, New York City



New Jerusalem Cathedral, NY



7 Skyline, Virginia



Bradley Hall, Rutgers University



New Jersey Institute of Technology

SLENDERWALL® is available worldwide from the finest architectural precasters through Easi-Set Industries, licensor of precast concrete products worldwide.

Easi-Set Industries is a wholly owned subsidiary of Smith-Midland Corporation, a publicly traded company.

Call today for literature and design manual.



EASI-SET® INDUSTRIES

Midland, Va 22722 • 1-800-547-4045

www.easiset.com • info@easiset.com

SLENDERWALL®

Architectural Precast Concrete/Steel Stud Building Panels

CIRCLE 50 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

News Briefs

Morphosis dropped from Grand Avenue project

The developer The Related Companies has decided to drop Morphosis from its \$1.2 billion Grand Avenue project. The housing and retail development, announced last year, is estimated to include about 3.2 million square feet in a key cultural and civic area of downtown Los Angeles. According to Bill Witte, principal at The Related Companies of California, Morphosis, the Santa Monica design firm led by 2005 Pritzker Prize winner Thom Mayne, has a "different design vocabulary than what the Related team is trying to do with the project." Witte says other options include Frank Gehry. Phone calls to Gehry's office were not returned. *A.M.*

British poll gives architects low happiness ratings

The 2005 "Happiness Index" compiled by City & Guilds, a U.K.-based group established in 1878 to encourage education and training in and for the workplace, has revealed some surprising statistics. Only 2 percent of architects enjoy their jobs, just 1 percent below civil servants, while hairdressers top the happiness league, with 40 percent claiming to be extremely happy in their work. Hot off the heels of hairdressers are chefs (23 percent), beauticians (22 percent) and plumbers (20 percent). *Lucy Bullivant*

Deal saves much of Plaza Hotel

New York's Plaza Hotel has set an accord to save 348 of its 805 rooms, as well as its Grand Ballroom, Palm Court, and Oak Bar. The future of these spaces had been in jeopardy when the Plaza's new owner, Elad Properties, had originally planned to save only 150 rooms, converting the rest to condos. *S.L.*

Blanton Museum to open in 2006

The Blanton Museum of Art at the University of Texas at Austin has announced plans to open its new, two-building complex beginning in February 2006. The museum, designed with a traditionally inspired exterior by Kallman McKinnell & Wood Architects, will include a main gallery, a visitor pavilion and education facility, and a public plaza and gallery. *S.L.*



A rendering of Blanton Museum gallery.

Mudslides damage Frank Lloyd Wright's Ennis-Brown House

Restoration of Frank Lloyd Wright's Ennis-Brown House suffered a recent setback when mudslides damaged the 1924 Mayan-inspired structure. The concrete-block home, perched in the Hollywood Hills, was donated by its owners, Mabel and Charles Ennis, to the Trust for Preservation of Cultural Heritage in 1980. The trust has



Damaged Ennis-Brown House.

been working to return the home to its original grandeur, but the 1994 Northridge earthquake caused extensive structural damage to it, and torrential rains in late February resulted in mudslides, which caused its retaining walls to partially crumble. While the trust has received a \$2.3 million federal grant for the work, repairs are estimated ultimately to cost a total of \$4.1

million. The famed home has been closed since December of last year for renovation and is not expected to reopen until late this summer. The structural engineering firm of Melvin Green & Associates is overseeing the repair. *T.I.*

It's easy being green.

Powder coating produces no volatile organic compounds (VOCs) in the application process, and powder coated products do not give off VOCs in use on the job or when recycled.

Life cycle costs are as superior as the finish, which offers advantages over liquid paint, anodizing, PVDF or Kynar 500®.

Powder coating works on almost any type or size substrate and comes in 10,001 colors, glosses, textures and effects, including green. Want sustainable buildings and low-emitting products and materials? Specify powder coating.

www.powdercoating.org/101

The Powder Coating Institute

Phone 800-988-COAT, 703-684-1770 • FAX 703-684-1771

The Powder Coating Institute (PCI) is a non-profit organization that promotes the application and utilization of powder coating.



designed for distinction



PHOTO: Brett Drury Architectural Photography

Modified

Riverside series exterior
sconces with custom
panel design and custom
powdercoat color.

Creekside Marketplace, San Marcos, CA
Smith Consulting Architects



PHOTO: Salisbury Studios

Custom sconces

with aluminum bar detail
and custom color diffuser.

Dane County Regional Airport,
Madison, WI
Architectural Alliance,
Schuler & Shook Lighting Designers



When standard products are not an
option, turn to Manning Lighting for
a look of distinction.

CIRCLE 52 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

PO BOX 1063
SHEBOYGAN, WI 53082
920-458-2184 P
920-458-2491 F
manningltg.com



MANNING
LIGHTING

TLCeBOOH

News Briefs

OMA's Dutch Embassy in Berlin wins E.U.'s Mies van der Rohe Prize OMA has received the Mies van der Rohe Award 2005—the European Union's Prize for Contemporary Architecture—for its design of the Dutch Embassy in Berlin. The award is presented every two years by the European Union and the Fundació Mies van der Rohe, Barcelona, to acknowledge high-quality architecture in Europe. The jury, chaired by Zaha Hadid, felt that the building was a powerful reworking of the notion of an embassy, and noted that an exceptional element was the spiral staircase with views framing the city. A sophisticated use of materials and visual effects revealing its context were also mentioned. *L.B.*

Libeskind to design unusual residential tower in Kentucky



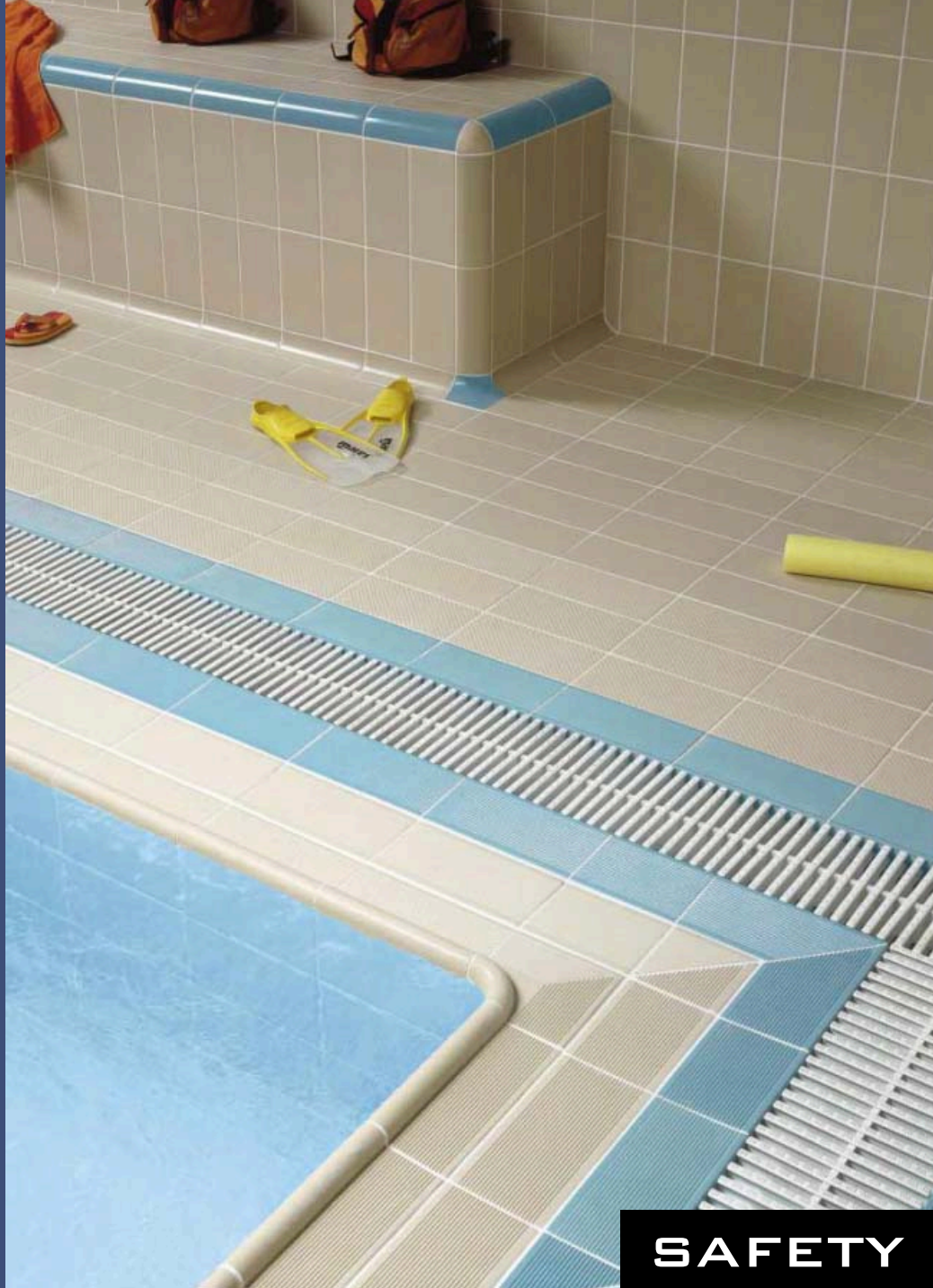
The Ascent's unusual crescent shape.

Covington, Kentucky's waterfront will be radically altered by a crescent-shaped high-rise designed by Daniel Libeskind. The 21-story curved-glass residential tower, located along the Ohio River, will have 80 condominium units, plus retail space and an urban plaza. Called

The Ascent, it is situated on 1 acre near John Roebling's famous 1866 suspension bridge connecting Ohio and Kentucky. The building's sweeping lines mimic the bridge. "This building, while Modern in design, is based on shapes that reflect the history and landscape of Greater Cincinnati," said Libeskind in a statement. "Yet [it] calls to mind the possibilities that lay ahead." The \$40 million project, developed by Corporex, is scheduled to break ground this summer and should be completed by 2007. *T.I.*

ENDNOTES

- The California Building Standards Commission voted to rescind an earlier state decision to adopt the NFPA 5000 Building Code. Instead, it will employ the NAHB-supported codes published by the International Code Commission, used extensively throughout the country.
- Construction is under way on Renzo Piano's New York Times Building in Manhattan.
- Rick Buckley, FAIA, a partner at NBBJ, died on January 1 at age 51.
- Architects Paul Byard and John Pinto have been awarded 2005 Guggenheim fellowships.



SAFETY



Ctra. Escatrón, km.9 - 44600 Alcañiz (Teruel) Spain - tel. (+34) 978 830511 fax (+34) 978 833003 - gresaragon@gresaragon.com - www.gresaragon.com

► Visit us at the Tile of Spain Pavilion at AIA, Las Vegas, May 19-21, Booth #4046.

CIRCLE 53 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

TLCFeBOOH

Welcome to the Slate of the Art.

After a century of setting and surpassing the highest standards in the roofing industry, CertainTeed presents its crowning achievement: Centennial Slate™.

Based on a new, patent-pending technology that allows color to be applied to each tab individually with a precision previously found only in nature, Centennial Slate replicates the true look of blended slate with uncanny accuracy, but at a fraction of the cost.

Centennial Slate is the first in a new generation of asphalt roofing shingles made possible by this color application system. But given CertainTeed's history of product innovation, you can be sure it won't be the last.

For more information, call 1-800-233-8990 or visit www.certainteed.com

CENTENNIAL SLATE™

CertainTeed 



Color shown: Centennial Slate Fieldstone

© 2004 CertainTeed Corporation Made under U.S. Pat. 5,287,669; 5,400,558; 5,411,134; 5,426,902; 5,501,056; 5,660,014; 5,951,809; 6,195,951; 6,237,288; 6,305,138; 6,523,316; 6,715,252. Other pat. pend. in the U.S. and Canada

CIRCLE 54 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

MEET EXPECTATIONS WITHOUT COMPROMISE.

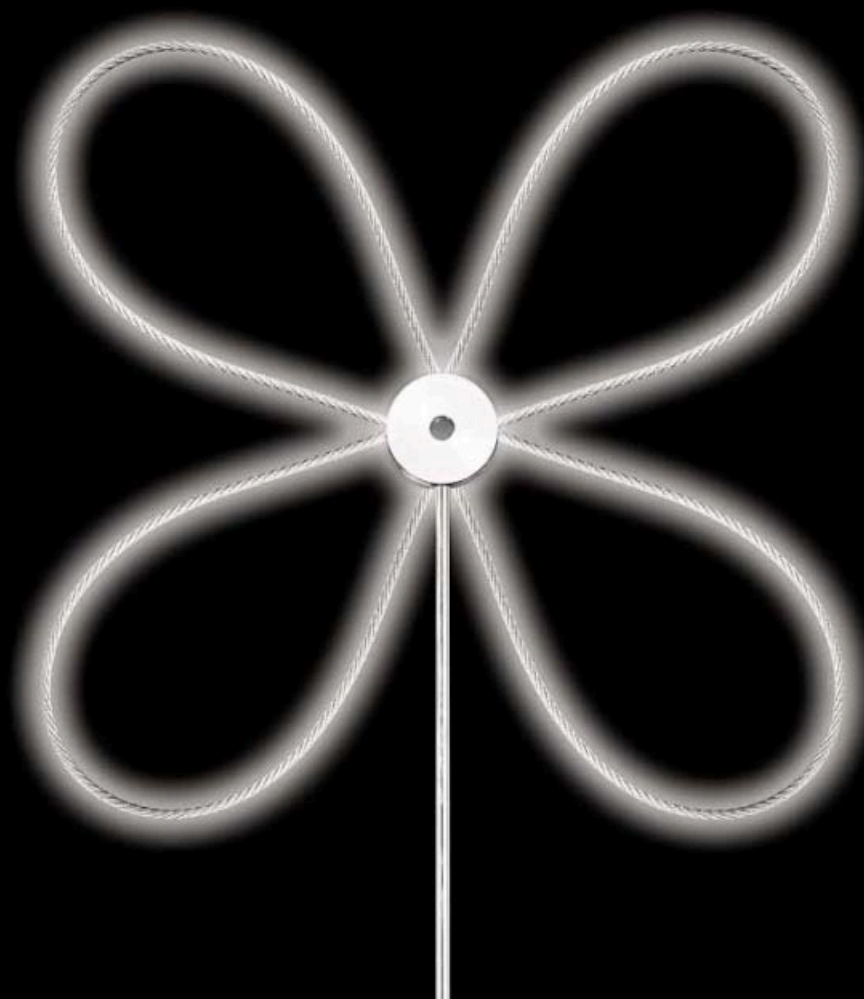


You can rely on Sherwin-Williams to help you meet your green coating specifications and satisfy all your quality expectations. And to help you identify our environmentally preferable coatings that provide maximum performance, we've developed the GreenSmart symbol. Products carrying this mark meet our highest standards for air quality, VOC emissions, life cycle cost efficiency, durability, color, and coverage. So with GreenSmart, you'll never have to compromise to meet all your requirements.



See your Sherwin-Williams Architectural Account Executive or call our Architect & Designer Answerline at 1-800-321-8194.





Green



I-SYS®
Stainless Steel
Cable and Rods

X-TEND®
Flexible
Stainless
Mesh

MCS®
Cable
and Rod
System

POSILOCK®
Suspension
Displays

Streamline™
Design
Accessories

FacadeScape™
Stainless Trellis
Systems

Web: www.decorcable.com

E-mail: sales@decorcable.com

Phone: 1.800.444.6271



THINK OF A ROOF AS A 5,000-SQUARE-FOOT CANVAS.



Create your own work of art using Lamarite® Slate Composite Shingles—available in four colors and 5-, 7-, and 12-inch widths. The shingles are listed for U.L. Class A fire resistance and U.L. Standard 2218, Class 4 impact resistance, and offered with a 50-year limited warranty*. Offer the natural beauty and premium performance of Lamarite Slate Composite Shingles.

For more information, call TAMKO today at 1-800-641-4691 or visit www.tamko.com.

 **LAMARITE® SLATE**

COMPOSITE SHINGLES



www.lamarite.com

1-800-641-4691

Roof color on house is Dusk Grey with Mulberry accent. Color shown in shingle inset is Dusk Grey.

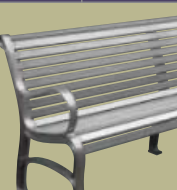
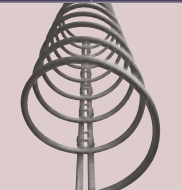
*For information regarding, or to receive a copy of, TAMKO's limited warranty, contact your local TAMKO representative, visit us online at www.tamko.com, or call us at 800-641-4691.

Representation of colors is as accurate as our printing will permit.
PATENT PENDING ©2005 TAMKO Roofing Products, Inc.

CIRCLE 57 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

TLCe8004

Bollards have become an increasingly popular design solution for safe spaces in the urban landscape. Canterbury offers a choice of designs from unique contemporary to traditional that complements the surroundings, when reinforced barriers are required. Canterbury can assist with design concepts, so unleash your creativity and Canterbury will manufacture your creation.



reinforced bollards

from canterbury



1890 REINFORCED BOLLARD.

Traditionally designed bollard, cast in iron, aluminum or bronze, for permanent or removable installation. Bollard Size: 18" diameter x 43" high. Pipe Size: 8" Schedule 100 pipe (to be filled with concrete). **OPTION:** 10-3/4" steel pipe (larger bollard).



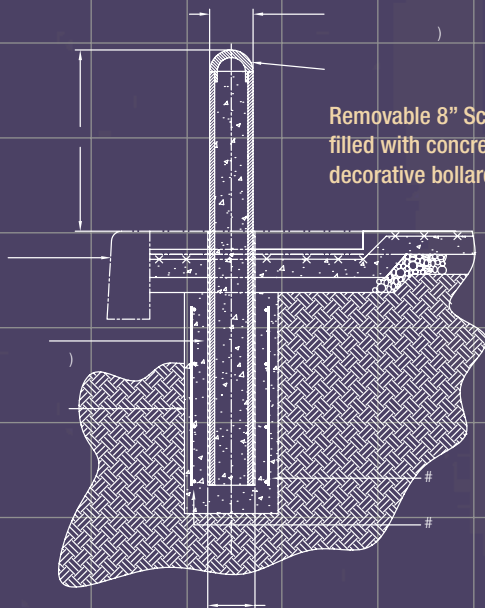
CHICAGO-2 REINFORCED BOLLARD.

Cast in Iron, Aluminum or Bronze for permanent or removable installation. Removable bollard pipe may be set in a steel sleeve provided by Canterbury for ease of removal. Bollard Size: 12-3/8" diameter x 42-1/2" high. Pipe Size: 8" Schedule 100 pipe (to be filled with concrete). **OPTION:** 10-3/4" steel pipe (larger bollard).

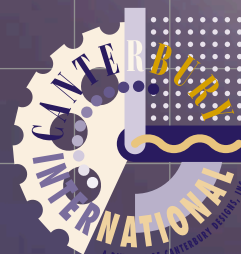


ALLIANCE FOR DOWNTOWN NEW YORK REINFORCED BOLLARD.

Contemporary designed bollard, cast in iron, aluminum or bronze, with stainless steel cap, for permanent or removable installation. Bollard Size: 12" diameter x 46" high. Pipe Size: 8" Schedule 100 pipe (to be filled with concrete). **OPTION:** 10-3/4" steel pipe (larger bollard).



Removable 8" Schedule 100 pipe (to be filled with concrete). Can be used with decorative bollard covers.



If you can imagine it, we can build it!
Call us with your most challenging project.

CANTERBURY INTERNATIONAL

800.935.7111

323.936.7111

323.936.7115 fax

canterburyinc@earthlink.net

www.canterburyintl.com



Pick a color. Any color.

Take The Pain Out Of Painting With Timely® Prefinished Steel Door Frames.

Count on perfect color coordination and be as selective as you wish with Timely. All colors are applied in coil form with durable baked-on polyester coatings and applied under controlled conditions, eliminating the possibility of environmental pollution. Timely frames also assure efficient installation as well. Because they're prefinished, they can be installed after the walls are finished. This eliminates costly delays or wall damage, messy paint spills on floors or carpets and time consuming touch-ups.

You can also bank on Timely's built-in economy. Because these frames are prefinished, you can save \$25 to \$50 per opening, while guaranteeing quality and color uniformity.

SEE US AT AIA CONVENTION BOOTH #1832

Meeting Your Demand for Quality: Over 30 trendsetting years in the field. **Versatility:** 5 casing design options. **Strength:** Sturdy full perimeter anchoring. **Beauty:** MiterGard® for perfect corners. **Fire Rating:** Full 90 minute positive pressure. For more details, visit us at www.timelyframes.com or call our **Marketing Services Department. 800-247-6242**



6 Stocking
Designer Colors.

29 Custom
Colors Plus Prime.

Or Pick A Color. Any Color.
We'll Match It.

TIMELY
PREFINISHED STEEL DOOR FRAMES
A DIVISION OF S.D.S. INDUSTRIES, INC.

NG IN 5 MIN.
NG IN 3 MIN.
NG IN 1 MIN.
NG IN 10 MIN.
NG IN 2 MIN.
NG IN 1 MIN.
NG IN 8 MIN.
NG IN 11 MIN.



**Stop a moving target.
With the world's first 46-inch LCD.**

Introducing the industry-leading Samsung 460P LCD.

Double takes. Breathless stares. Drool. Some of the known side effects to Samsung's 460P, the largest and fastest LCD available. With stunning contrast and 8-millisecond response, it delivers breathtaking, hi-def imagery that is sure to captivate. And if that doesn't stop you in your tracks, our 3-year, on-site service warranty will. For all the details, visit www.samsung.com/proav

©2005 Samsung Electronics America, Inc. Samsung is a registered trademark of Samsung Electronics Co., Ltd. All product and brand names are trademarks or registered trademarks of their respective companies. Screen images simulated.

SAMSUNG

CIRCLE 60 ON READER SERVICE CARD OR GO
TO ARCHITECTURE.CONSTRUCTION.COM/PRODUCTS/

Rome is booming, but for stars and newcomers, the city remains a challenging place to build

Correspondent's File

By Paul Bennett

An architecture critic writing in the 1640s could have easily named Francesco Borromini the top architect of Rome—and, by extension, the Western world. Borromini walked onto the scene with a revolution at San Carlino, and followed this with some of the most important commissions in the city, including the redesign of San Giovanni, the mother church of the Catholic faith. He was also hard at work on the eye-popping Sant'Ivo church, today still considered one of the most important buildings in the world. Yet this early critic might have regretted his pick a decade later,

Paul Bennett, a Rome-based writer, is a former editor of Landscape Architecture magazine.

when Borromini was eclipsed by his rival and nemesis Bernini, and he found securing commissions in the eternal city a difficult task. By late summer 1667, our critic would have been depressed to read that his prodigy had fallen on a sword, committing a slow and agonizing suicide.

That Rome defeated an architect like Borromini touches on serious matters today as Rome becomes a place for significant new architecture, with top architects such as Zaha Hadid, Rem Koolhaas, and Richard Meier, FAIA, all hard at work on what they hope will be signature buildings that can stand beside the likes of Michelangelo, Appollodorus, and Libera. If Rome defeated Borromini, what will it do to these star architects,

much less the city's emerging talent?

"Rome can be a dangerous place," says Livio Sacchi, an architecture critic and professor of architecture at the University of Pescara, in describing the weighty historic context. "You have to be able to digest the city's architectural importance, and then move on. Too many architects have gotten stuck here unable to do good work."

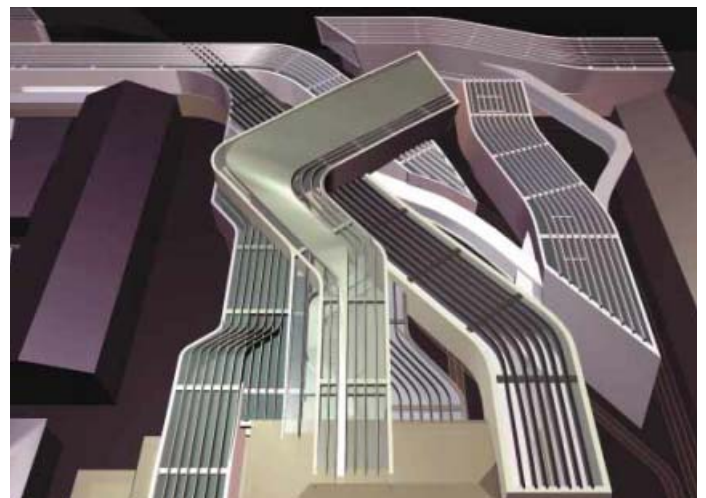
Starchitects arrive

After several sleepy decades, from the 1950s to the 1980s, punctuated by the Tangentopoli scandal of the early 1990s, in which a shocking system of graft and backhanding was exposed throughout Italy, the architecture scene in Rome began to

wake up. The city's rebirth dates to a major civic commission to build a new music center, the City of Music [RECORD, October 2003, page 116], which was won by Renzo Piano. This was quickly followed by two more international commissions: one for a Vatican-sponsored Jubilee Church (or "church of the millennium"), and the other for a new pavilion for the Ara Pacis (altar of peace) monument, built in 13 B.C. to commemorate Augustus Caesar's victories over Spain and Gaul. Both of these attracted a who's who of international architects, and while both were won by Meier, it was obvious by the 1990s that Rome was becoming a place where serious architects could find work. Currently, Zaha Hadid is

Richard Meier's Ara Pacis project (left two), with the architect's typical Modern styling and materials, has been

slowed by politics. Zaha Hadid's Center for Contemporary Art (below) is under construction.



IMAGES: COURTESY RICHARD MEIER & PARTNERS (LEFT TWO); ZAHA HADID ARCHITECTS (RIGHT).

TLCFeBOOK

Correspondent's File

designing a major renovation and addition to the National Center for Contemporary Art just north of Rome's center. Her typically ambitious design of interweaving corridors is already under way. The other big museum commission in town is for the Museum of Contemporary Art, or MACRO, won by Paris's Odile Decq, who will completely remodel an old Peroni beer company brewery. Rem Koolhaas has just won a commission to construct a major retail development, called Mercati Generali, on the

site of the former city marketplace on the edge of town.

"All of these international architects coming to Rome, winning competitions ... it's great," says Massimiliano Fuksas, Rome's homegrown star architect who, after several years' exile in Paris, returned to the city in the wake of Tangentopoli. "But what is most exciting is that these things are getting built." What many (including Fuksas himself) believe will be the crowning achievement of his career, a conven-

tion hall in the EUR suburb of Rome, designed like a cloud, is in the last phase of development.

The challenges of history

While paying attention to the traditions of the 1970s is important in most places, in Rome one also has to think about the 1870s, the 1770s, the 770s, and the 70s, as well. Nowhere else does an architect need to grapple with so many different eras and traditions, and so history itself becomes a key challenge. "The most important aspect of building in Rome is the layers of history," says Meier. His Jubilee Church makes references to Borromini and the traditions of

Baroque church building, but since it sits in the suburbs, Meier admits it escapes the historical trap. But the Ara Pacis is located in the center of the city, a few feet from the 1st century Mausoleum of Augustus on the east bank of the Tiber. Meier describes his Modernist, white travertine-and-glass pavilion as a bridge between eras.

Meier spent the better part of the design process for the Ara Pacis project fighting the flamboyant arch-conservative Vittorio Sgarbi, who was serving as minister of culture. Construction was halted for more than a year, and to all appearances, it looked like it wouldn't start again.

Second City: Milan leads the Italian construction boom. But will it last?

After a bad year in 2003, the Italian construction industry bounced back onto a boom track that began in 2000. The construction index, which weighs starts against other data, has increased by 20 percent in the past four years, and in 2004 rose more than 6 percent.

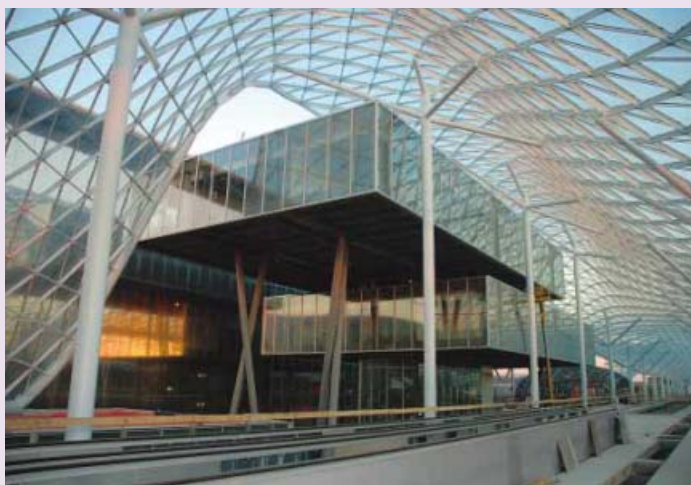
Most of the building boom is taking place in Milan. The main news this spring is the completion of a new facility for the Milan Trade Fair, which was relocated from its fairgrounds in the city center to a western suburb and took the opportunity to greatly increase its size.

"For a time, the Fiera was the biggest construction site in the world," says project architect Massimiliano Fuksas. "The main hall is a mile long. There's 600,000 square feet of glass in the structure."

The Milan scene heated up for a while in the 1970s and 1980s before scandal brought collapse in the 1990s to the entire Italian construction industry. But after a half decade of economic recovery, Milan has seen its key industries—media, fashion, and the design trade fairs—rebound with strength. The Fiera fairs themselves have grown by 30 percent (according to revenue) over the past five years, and with the expansion, the Fiera will become the second-largest exhibition center in the world.

Unlike Rome, where most new commissions are cultural or public buildings, most of the new construction in Milan is private and commercial. The most recent headline-grabbing commission was announced last fall for a three-tower office complex designed by Daniel Libeskind, Zaha Hadid, and Arata Isozaki. Also on tap is a 525-foot skyscraper by Pei Cobb Freed—topping out Gio Ponte's Pirelli Building to become the tallest in Italy—and a "city of fashion" zone planned by Cesar Pelli.

The boom in construction is outstripping the Italian economy, which has only been growing by 2 percent. But market analysts at Market & Business Development warn that this is due in part to the rebound effect of the end of the building recession in the 1990s. At the same time, many worry that the high value of the euro and the inflation rate in Italy, which one national statistics agency put at nearly 10 percent at the end of 2004, spell only short-term success. Already the bubble may be bursting. After a much-discussed competition for the high-profile European Library of Information (BEIC) won by Bolles + Wilson of Munich in 2001, the library has been unable to raise capital to begin planned construction in 2005. P.B.



Fuksas's Milan Trade Fair facility under construction (above). A coming skyscraper complex by Zaha Hadid, Daniel Libeskind, and Arata Isozaki (left). Pei Cobb Freed's new skyscraper (below).



IMAGES: © FUKSAS ARCHITECTS (TOP); ZAHA HADID ARCHITECTS (MIDDLE); PEI COBB FREED (BOTTOM).

Introducing the Era[®] Collection



KIM LIGHTING

16555 East Gale Avenue
City of Industry, CA 91745
626/968-5666

www.kimlighting.com

Made in America



CIRCLE 61 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Correspondent's File

But while Sgarbi huffed and puffed about what he deemed a cultural abomination on his television talk show (yes, the culture minister of Italy was also a talk-show host), Meier withstood the maelstrom quietly. "You just have to hold on tight," says Meier partner Nigel Ryan, "and, on one level, not pay attention."

Piano's City of Music took nearly 10 years to construct. Meier's church

defined Piano's auditorium, which makes strong references to the Pantheon with its lead roof and to Imperial Roman building with its use of brick and travertine and wooden trusses.

A harder road for emerging architects

Regardless of the grip of history and politics, all of these big, headline-

FINALLY, AFTER SO MANY YEARS, I HAVE AN ANSWER FOR WHEN PEOPLE ASK ME WHEN IT WILL BE DONE: SOON.

over six. The Ara Pacis pavilion is entering its fifth. But the steel frame of the roof is up, and work is progressing quickly.

"Finally, after so many years, I have an answer for when people ask me when it will be done," says Meier. "It's a very Roman answer: Soon."

By necessity, history largely

grabbing projects may not be the best measure of Rome's mettle. "Rome now has, like so many other cities, so-called 'big name' architecture," says Pio Baldi, director general for contemporary art and architecture in the Italian ministry of culture. "But what Rome really needs is a lot more little buildings by little-known,



Renzo Piano's City of Music (above) helped spur Rome's Modern rebirth. Roman architect Massimiliano Fuksas's Ditta Nardini distillery and research center in Vicenza is similar in form to the architect's future convention hall in EUR, a suburb of Rome.



PHOTOGRAPHY: © RICHARD BRYANT/ARCAID.CO.UK (TOP); COURTESY FUKSAS ARCHITECTS (BOTTOM)

Pilkington Profilit™ MANAGEMENT OF LIGHT



© Bill Timmerman

Efficiently manage light, visibility and energy by incorporating **Pilkington Profilit™** in your building design. Profilit products can meet your design requirements through a combination of alternative surface finishes, performance coatings and specialized installation materials.



Established 1873

WESTCROWNS INC.

910-579-4441

www.westcrowns.com

dtodd@westcrowns.com



© Todd Smith

CIRCLE 62 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

1 FEBRUARY



Passion for Perfection

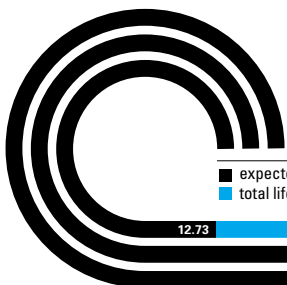
Passion drives craftsmen to achieve outstanding results. From fabric, pigments, and marble to jade, bricks, and wood.

Our passion is metal. With our craftsmanship, we not only make the world's best standing seam metal roofing systems, we also teach professionals the right way to install them. We go to the job site and personally inspect the work in progress so we can assure long lasting, beautiful performance, and guarantee it with our Single Source Warranty.

“

I choose a block of marble and chop off everything I don't need.
— François-Auguste Rodin

”



Low Slope Roofing Life Cycle Cost Comparison*

■ expected total service life (in years)
■ total life cycle cost based on expected longevity

Material	Expected Total Service Life (in years)	Total Life Cycle Cost based on expected longevity (\$/sq)
single ply	12.73	\$0.45
asphalt	17.28	\$0.42
metal	28.41	\$0.26

www.mbcilife.com/lifecycle

*Ducker Research, 36 case studies, May 2004



CIRCLE 63 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/



www.mbcilife.com

16 MBCI locations to serve you

Houston, TX (877) 713-6224 • Adel, GA (888) 446-6224 • Atlanta, GA (877) 512-6224 • Atwater, CA (800) 829-9324
Dallas, TX (800) 653-6224 • Indianapolis, IN (800) 735-6224 • Lubbock, TX (800) 758-6224
Memphis, TN (800) 206-6224 • Oklahoma City, OK (800) 597-6224 • Omaha, NE (800) 458-6224
Phoenix, AZ (888) 533-6224 • Richmond, VA (800) 729-6224 • Rome, NY (800) 559-6224
Salt Lake City, UT (800) 874-2404 • San Antonio, TX (800) 598-6224 • Tampa, FL (800) 359-6224

Correspondent's File



OMA's new Mercati Generali will include transparent and glowing skins.

but excellent architects." Baldi says that his ministry will be spending a lot more time fostering these kinds of commissions. One reason, he says, is that Rome has a glut of architects. Unemployed designers

complain that too many of their number are leading tours, teaching high school, or writing articles about architecture instead of actually building. The one dissenting voice is the ever-jovial Fuksas, who argues that

since architects are artists, there can never truly be a glut. "Would a painter complain that there were too many painters and that there should only be 30? No. He'd say it didn't matter, because he was the best." The positions that architecture school graduates do get in studios pay famously low or not at all.

Design Vanguard 2003, page 76], Nemesi, NI, T-Studio, Delogo Architetti, Luigi Centola, King & Roselli, and Giammetta & Giammetta. Heavily influenced by northern European trends, the group has taken a strong position against the old guard of Roman architecture—the deans of the architecture

"WOULD A PAINTER COMPLAIN THAT THERE WERE TOO MANY PAINTERS AND THAT THERE SHOULD ONLY BE 30?"

Many argue that federal and municipal governments should be doing more to help and protect small, local firms rather than doling out big commissions to the Rem Koolhaases of the world. Instead of waiting for this to happen, a small organization of young architects calling themselves the "Rome Eight" has banded together to sponsor lectures, write articles, and generally raise a ruckus about what they see as Rome's ultra-conservative and hard-to-penetrate architectural aristocracy. The group includes Labics [profiled in RECORD's

schools, who exert a powerful dominance over architecture in this city.

"Italy has been frozen by people like Paolo Portoghesi, Vittorio Gregotti, and Gae Aulenti," says a prominent figure in the Rome architecture scene, referring to some of the great names of the 1970s and 1980s, who all occupy major posts in the schools. "And so the young, frustrated by this, react by turning their backs on it all. This is good, because it shakes things up. But also they risk turning their back on history." ■

IMAGE: COURTESY OFFICE FOR MUNICIPAL ARCHITECTURE

Versatile Colorful

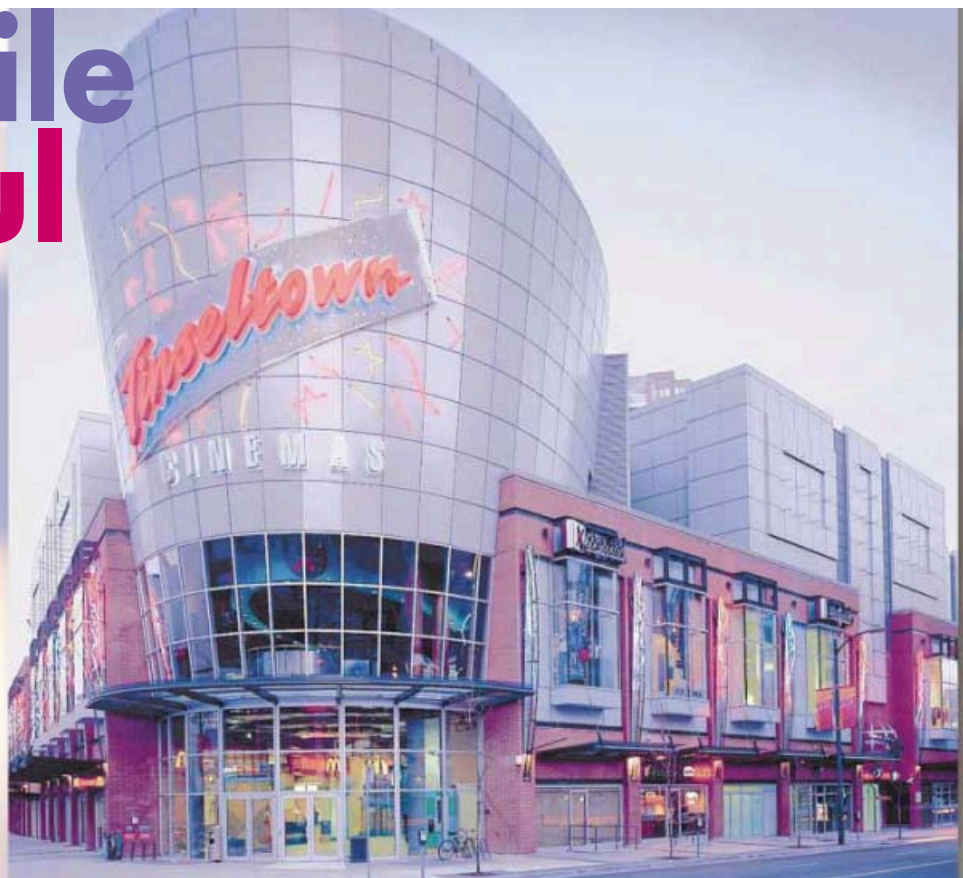
Imagine with
metal wall
panels!

Contact the
Metal Construction Association
at 847/375-4718 or
visit www.metalconstruction.org
for more information.



American
Iron and Steel
Institute

Participating Wall Panel Manufacturers and MCA members
ATAS International, Inc. • Alcoa Cladding Systems • CENTRIA
Copper Sales • Foam Enterprises • Metecno-Aluma Shield
Metl-Span, Ltd. • Umicore Building Products



Design Awards Winner: International Village, Vancouver, BC • Kir Kor Architects



If it's worth building,
it's worth protecting.

The forecast calls for Tyvek®.

Nothing threatens the structural integrity of a building like unwanted water and moisture. That's why intelligent moisture management is so critical to sound design and construction. And why more architects now protect their projects with DuPont™ Tyvek® CommercialWrap®.

Tyvek® CommercialWrap® was engineered specifically to help protect exterior wall systems in today's higher-value light commercial construction. It's up to 300% better at bulk water holdout than conventional building papers. And because Tyvek® breathes, it helps allow moisture vapor molecules to escape the wall cavity. So walls stay dryer.

You can't do anything about the weather. But you can prepare for it, with Tyvek®. Find out more at 1-800-44-TYVEK® or www.TYVEK.com.

© Copyright 2003-2005 E.I. du Pont de Nemours and Company. Tyvek® is a registered trademark of DuPont for its brand of protective material. All rights reserved.

**Tougher, stronger,
higher-performance**

DuPont™
Tyvek®
COMMERCIALWRAP®



The miracles of science™



CIRCLE 65 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Celebrating Forty Years



Entertain All Your Senses with the uncompromising quality and style of a Dacor kitchen. For generations we've been building innovative high-performance appliances, each **hand-crafted** down to every delicious detail. Turn family gatherings and everyday entertaining into events to remember.

dacor
The life of the kitchen™

RANGES • WALL OVENS • COOKTOPS • VENTILATION • MICROWAVES • REFRIGERATION • OUTDOOR GRILLS

800.793.0093 www.dacor.com/AR

CIRCLE 66 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Mexico City, chaotic and creative, launches a new generation of talented architects

Exhibitions

By Sam Lubell

Mexico City Dialogues: New Architectural Practices.

Curated by José Castillo. At the Center for Architecture, New York, through May 7, 2005.

This spring, New York City's Center for Architecture assembled its first international exhibition, *Mexico City Dialogues: New Architectural Practices*, presenting 14 projects by young firms from one of the world's most complex and expansive cities. Wisely, the center chose a Mexico City native to curate the exhibition, José Castillo, a professor at the Universidad Iberoamericana, and currently a principal at Mexico City-based Arquitectura 911sc. Castillo has put together a show that, like its subject, is at times confusing, and perhaps too ambitious, but nevertheless fascinating. Linking the political, legal, and social trends of the city with the design and development strategies of these projects, the show provides a rare glimpse of a developing world of architecture that is often ignored by the architectural elite in the U.S. and Europe.

The show begins with a Mexico City Fact Room, displaying introductory statements by local intellectuals, as well as background information on the city presented in aerial maps, time lines, and detailed statistics. The room offers a first glimpse into the chaotic world of building in Mexico City, a sprawling and quickly growing metropolis of 18.5 million, where the majority of development happens outside of any planning framework. The presentation is sprawling, as well: A time line, for instance, con-

tains not only important dates, but pictures of significant architectural projects, rapidly climbing population figures (2.9 million in 1950, 16.9 million in 1990), developing income levels, and so on.

Like this blitz of often-overlapping data and imagery, the immense scope of the city appears in many ways overwhelming, even horrifying. But the exhibition helps find a silver lining. As Miguel Adria, architect and editor of the magazine *Arquine* in Mexico City, says in one wall panel, "It is in the cracks, in the fissures of imperfect structure where opportunities exist." TEN Arquitectos principal Enrique Norten, who served as a sort of godfather to the young architects at the exhibition's opening, describes the context within which these designers are working: a remarkably complex city undergoing rapid change. "The overlaps that result from this phenomenon make it distinct from other great metropolises," he notes.

Mexico City's character forces the creativity—not just in form but in program—that is evident in many of the chosen projects, designed by some of the city's most promising young architects. In the exhibition's main space, on the center's lowest floor, Castillo manages to include not only photographs, drawings, models, and architectural commentary, but also descriptions of the legal and economic hoops these enterprising architects managed to jump through to make these buildings possible. Project notes also describe the neighborhoods in which the projects are



Dellekamp Arquitectos's AR 58 apartment building (above). Volvox's Lope de Vega 324 apartment (right).

built—a wide range, including poor communities on the outskirts of the city and posh, affluent zones.

Even in richer and more established neighborhoods, architects must contrive creative solutions. Dellekamp Arquitectos's AR 58 apartment building, located in Condesa, a rejuvenated area with stylish bars and restaurants, offers an intriguing solution for dense residential design. Matching the area's liveliness, the architects have built a series of stacked housing units separated by voids "floating on air," as the exhibition text states. The mix of



Exhibitions

corrugated aluminum (a popular material in these projects, perhaps because it is cheap and offers rich texture), sheet aluminum, and concrete give each unit a distinct identity. Apartment balconies provide visual connections with the street. In the Lope de Vega 324 apartment building, the architectural firm Volvox uses a contemporary aesthetic in a traditional neighborhood by turning strict local code requirements for open space to its favor, creating a vertical inner garden that helps foster density and creates a unique mixture of interior spaces. At the FALCON Corporate Office, Rojkind Arquitectos transformed an existing house in a quiet residential area into a visual marker for the company (other local companies tend to tuck their offices behind discreet fronts). The architects used colorful panels to create a pixelated screen around the building and provide space for a cactus yard garden

between the offices and the screen.

In low-income areas, architects have fewer resources to work with, so they need to be more creative and less reliant on standard design solutions. FRENTE Arquitectura, for example, built a group of low-income houses quickly and cheaply using variations of color and form to break the typical "row after row" monotony of public housing. Subtle changes in light pastel colors lend energy and richness to a type of project that too often reads as a sea of white or gray apartment blocks. Another example of innovation applied to social housing is the San Pablo Oztotepec Market, in one of the city's poorest areas, where Taller de Arquitectura/Mauricio Rocha replaced the tents of the area's old market with elevated units separated by corrugated-metal-louvered shades.

The exhibition places project notes and images in horizontal bands



Mauricio Rocha's Oztotepec Market replaces an old market's tents.

around the gallery's back walls, an arrangement that highlights the connections between the projects (and saves space in this often-crowded New York architecture hub). But this setup sometimes makes it difficult to focus on individual works. For taller viewers, getting to see the firms at the bottom of the three bands was often an exercise in back strain. But it was usually worth the effort. As the exhibition makes clear, many talented architects are working south of our border. Distanced from the herd mentality of large firms and energized by a hyperpopulated urban environment,

this emerging generation of designers is developing its own set of aesthetics, strategies, and ideas. Indeed, as architectural talent and knowledge expand and the globalized world continues to shrink, the focus of the professional discourse will inevitably shift. Certainly, more exhibitions will focus on emerging architecture from once-ignored corners of the world. The prospect might be daunting, considering the difficulty of keeping track of what's happening just in local circles. But this new reality offers opportunities both overwhelming and exciting. ■

PHOTOGRAPHY: © LUIS GORDOA



MasterFormat™ 2004? NO PROBLEM!

BSD SpecLink® is the ONLY spec product that makes the switch for you – with one mouse click! CSI/CSC's new MasterFormat is now available, and the North American construction industry is rapidly adopting the new standard. Instead of the familiar 16 divisions, there are now 50, and the old 5-digit section numbers have become 6- and 8-digit numbers.

How will YOU handle the transition? Master specifications based on word processing will have to make the change manually. BSD SpecLink is based on relational database technology that lets you flip any project back and forth between the old and new formats – automatically! One mouse click changes all section numbers and titles in your project – as well as all internal cross references.

Let us show you how our proven specifications solution will improve your productivity while eliminating the MasterFormat transition problem. BSD SpecLink even lets you import and convert your own favorite sections from word processing files.

You won't find a better specifications solution anywhere else!

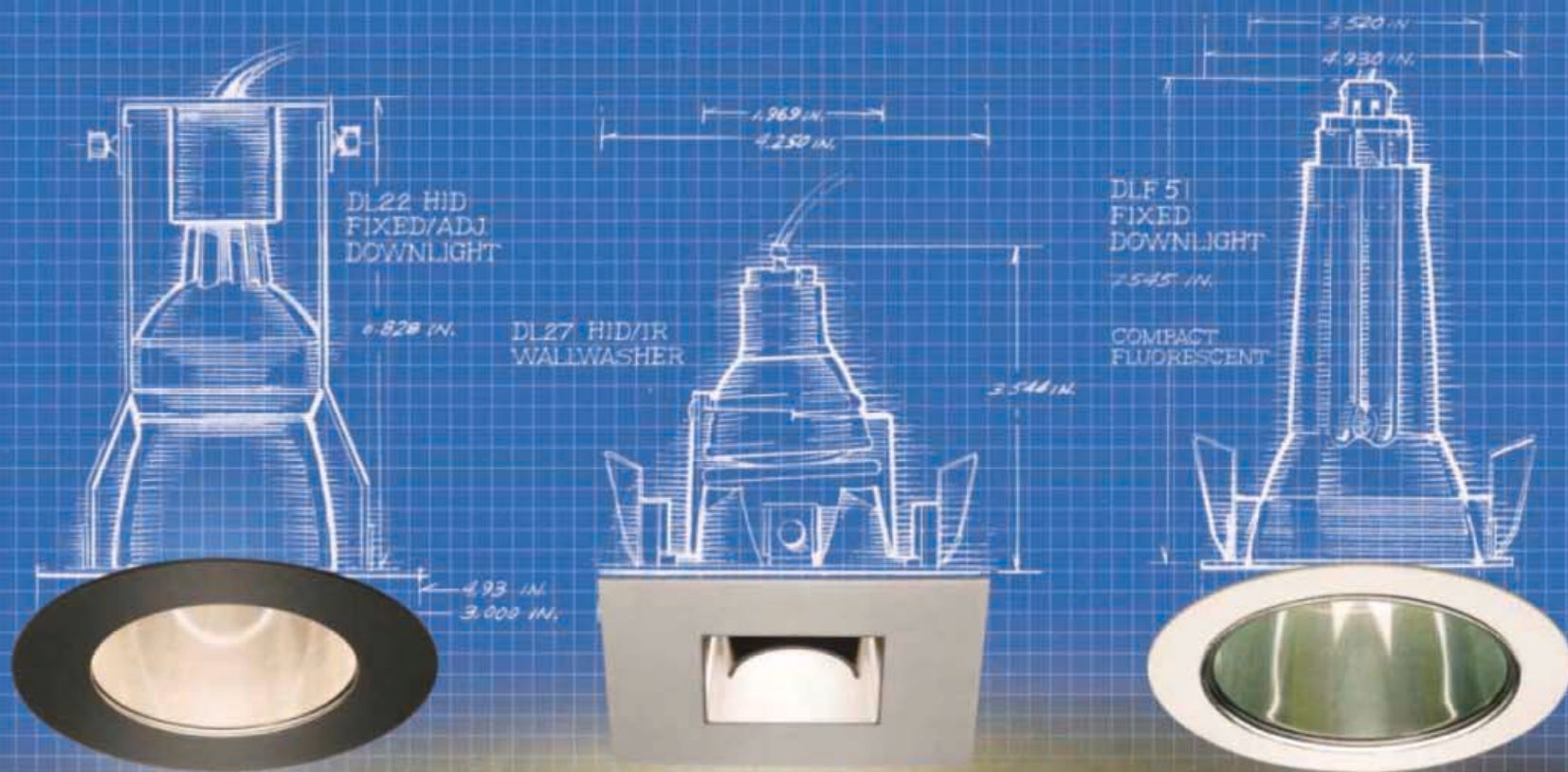
 **BSD**
Building Systems Design, Inc.

Exclusive offering of
CSI-DBIA and BSD.
 

Call us today to set an appointment for a live, on-line demo, or download a free demo from our website.

1-888-BSD-SOFT
1 - 8 8 8 - 2 7 3 - 7 6 3 8

Or visit our website at www.bsdssoftlink.com



hidden beauty: not just another pretty fixture.

The artistry behind Lucifer's new downlights has created function that is as beautiful as the form. Accepting HID, CFL, and IR lamps, these low profile fixtures make energy efficiency a creative opportunity with louvers, lenses, and baffles that allow light to be tuned for a variety of effects. Lucifer downlights: beautifully designed, elegantly engineered, and exceptionally efficient.

LUCIFER
LIGHTING COMPANY

LUCIFER
LIGHTING
25th
ANNIVERSARY

CIRCLE 68 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

800.879.9797
luciferlighting.com

TLCFe800H

Tuneable[™] Lighting



MAKE THE WORLD GO AWAY. OR NOT.

Privacy versus light on an inside office can be a major debate. Now, with our new Variable Privacy™ Door, you can offer the best of both worlds. With blinds built right into the glass, simply slide the lever and have instant privacy, or added light with a view. Part of our Marshfield Signature Series.™ Marshfield DoorSystems, **Opening Doors to Unlimited Possibilities** for over 96 years. 1-800-869-3667 ext. 2322. marshfielddoors.com



For and about the emerging architect

archrecord2

This month in archrecord2, we take a closer look at the five architects selected for the the 2005 American Institute of Architects' Young Architects Award, to be presented at the upcoming AIA National Convention. Scattered throughout the U.S., these architects have made significant contributions to the profession and have undertaken leadership roles within their communities. For more projects completed by this year's award winners, go to the archrecord2 Web site.

Design

Young Architects at Their Best

As is customary, during this year's American Institute of Architects National Convention and Design Exposition in Las Vegas later this month, five architects will receive the 2005 AIA Young Architects Award. All at early stages in their careers, each of the recipients demonstrate exceptional characteristics in their professional work that herald a promising future. These architects' contributions range from creating award-winning and sustainable design to mentoring and teaching to leadership in their communities.

As a principal of the Washington, D.C.-based Inscape Studio, Rick Harlan Schneider, AIA, is widely recognized for his sustainable design practices. Schneider, in fact, received the AIA/D.C.'s Presidential Citation for Sustainable Design in 2002 and 2003. His work includes master planning for the greening of communities, and residences he's either designed or renovated to be more environmentally responsible. The architect is instrumental in bringing this sustainability to the community, for both architects and the general public, through educational programs with the National Building Museum and the Catholic University of America, as well as his role as chairman of the AIA/D.C. Committee on the Environment.

There are several areas in which Eric Strain, AIA, has sought to bring attention to the architecture of Las Vegas. Strain's own firm, assemblageStudio, has earned 18 awards for design excellence in both public- and private-sector projects. This architect, who grew up in the Las Vegas area, also plays an active role in the leadership of the local AIA chapter, where he has served as president and was instrumental in creating *Architecture Las Vegas*, a publication devoted to showcasing the local architecture. Strain's involvement is not limited to native architecture, but includes art and design in the community: He has served as director of the Nevada Institute for Contemporary Art and coordinates arts and design symposia.

Miguel Rivera, AIA, is recognized not only for his award-winning projects at Mitchell/Giurgola Architects, but also for his efforts at Miró Rivera Architects in Austin, Texas, where he is a principal of the firm. His projects, both public and private, have been acclaimed by local and national award programs as well as



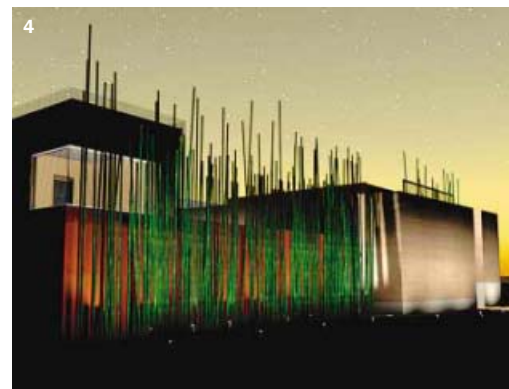
Inscape Studio

Examples of Rick Harlan Schneider's award-winning and environmentally responsible designs: (1) Butterfly Porch, Bethesda, Md.; (2) U Street Studios, Washington, D.C.



assemblageStudio

Eric Strain's designs deviate from the status quo of local architecture: (3) Mesquite Heritage Museum and Art Center, Mesquite, Nev.; (4) bamboo residence, Las Vegas, Nev.





Miró Rivera Architects
Miguel Rivera's design sensibilities, in his residential, commercial, and institutional projects, have an

impact on the Austin, Tex., landscape: (5) Pool House, Austin, Tex.; (6) Rockcliff Guest House, Austin, Tex.

international publications. Originally from Puerto Rico, the architect also donates his time to various AIA Awards programs: He has served on juries in several states and filled the role of chair of the AIA New York City Design Awards Committee. He often serves as a studio review juror for architecture schools around the country.

Jeffrey DeGregorio, AIA, has used the early years of his career to create a role for himself in the Boston architectural community. At Payette Associates, he is currently a project architect and has worked on several large-scale renovations at higher-education institutions, including MIT, Tufts University School of Medicine, and Princeton University. DeGregorio developed the Young Designers

Core, a program that promotes education and career growth within his firm. After the success of this program, DeGregorio initiated Payette Associates' first formalized mentorship program and also contributed to the formation of the Boston Society of Architect's Mentoring Program. Beyond his roles as designer and leader, DeGregorio teaches a design studio at the Boston Architectural Center and serves as a thesis adviser there.

As a project manager at Antinozzi Associates in Stratford, Connecticut, F. Michael Ayles, AIA, juggles a workload that includes design services for government agencies, educational facilities, and financial institutions. And while no longer an intern himself, Ayles has remained active in guiding emerging archi-

PHOTOGRAPHY: © PAUL BARDAGLY (5); JUAN MIRÓ (6)

First Impressions Last.

When you put forth the effort - it shows. Coordinating the needs of fundamental basics along with satisfying aesthetic - the Frequency™ ensemble does it with style and grace. With its unique wave design, the fixture simplifies the task of meeting ADA height requirements by offering two heights in one unit. To view the entire Frequency product line with all its companion elements, visit bradleycorp.com or call 1-800-BRADLEY.

PLUMBING FIXTURES WASHROOM ACCESSORIES LENOX™ LOCKERS MILLS® PARTITIONS



"Incredible,
isn't it?"

"Spectacular."

You can't take your eyes off the beauty of Porcelanosa ceramic parquet. The exquisite design, the uncompromising European craftsmanship—only Porcelanosa makes such breathtakingly beautiful tile, kitchen and bath furnishings. To find the showroom nearest you, call 877-PORSAUS or visit porcelanosa-usa.com.

California / Florida / Maryland / New Jersey / New York
Porcelanosa / Venis / GamaDecor / L'Antic Colonial / System-Pool / Butech / Noken / Ceranco

VISIT
US AT

the Tile of Spain Pavillion at AIA, Las Vegas, May 19-21, Booth #4046

CIRCLE 71 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

TLFEB00H

PORCELANOSA®
TILE / KITCHEN / BATH

©2005 Porcelanosa Group. All rights reserved.



Antinozzi Associates

As a project manager, F. Michael Ayles juggles the daily responsibilities within the firm and also takes time to advocate the importance of mentorship. An example of Ayle's interior projects: (7) Webster Bank Darien, Conn.



Payette Associates

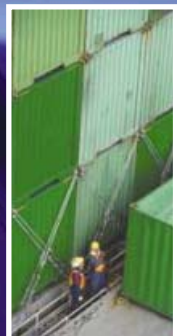
DeGregorio finds the time to take on the responsibilities of teaching and mentoring while also acting as a project architect on large-scale university work: (8) MIT: PDSI Project.

jects, specifically regarding internship and mentorship. He first worked on promoting the topic locally—for instance, he helped develop the Emerging Architectural Community, which serves associate and young architects, encouraging a focus on community service and providing opportunities for fellowship and networking. He soon moved into a national role with the AIA Intern/Associate Committee and the Young Architects Forum (YAF). As the 2004 chair of YAF, he wrote for numerous publications and spoke at several programs on the topic of firm-based intern programs and the importance of mentoring. **Randi Greenberg**

Many more projects from these award-winning architects are available on the Web at archrecord.construction.com/archrecord2/

PHOTOGRAPHY: COURTESY ANTINOZZI ASSOCIATES (7); PAYETTE ASSOCIATES (8)

findcontractors.com



ABC contractors have been building on-time, on-budget, high-quality construction projects

for more than 50 years. Now you can find those contractors across the country—quickly, easily and at no cost to you by visiting www.findcontractors.com.



4250 N. Fairfax Dr., 9th Floor
Arlington, Virginia 22203
Tel: (703) 812-2000
Fax: (703) 812-8200
Website: www.abc.org

Water is Precious

Water is the most valuable resource in our world.

Water Conservation is fast becoming a global challenge.

How do we accept the challenge?

Since 1906, Sloan has provided reliable, cost-effective solutions to delivering water. We believe you share our commitment to water conservation.

Sloan's **Water Conservation Division** and LEED®-applicable products can help you achieve your sustainability objectives.

Let Sloan's **Water Conservation Division** be your partner.

*Water Conservation is not just our mission.
It is our promise.*



Call 800-9-VALVE-9 (800-982-5839) ext. 5609
www.sloanvalve.com

In China:

Sloan Valve Water Technologies (Suzhou) Co. Ltd., Suzhou New District, China
www.sloan.com.cn



Water-saving manual and electronic Flushometers



Waterfree urinals



Water-saving electronic faucets



Water-saving pressure-assist water closets



Water-saving showerheads

VISIT US AT BOOTH 3049 AT THE AIA SHOW

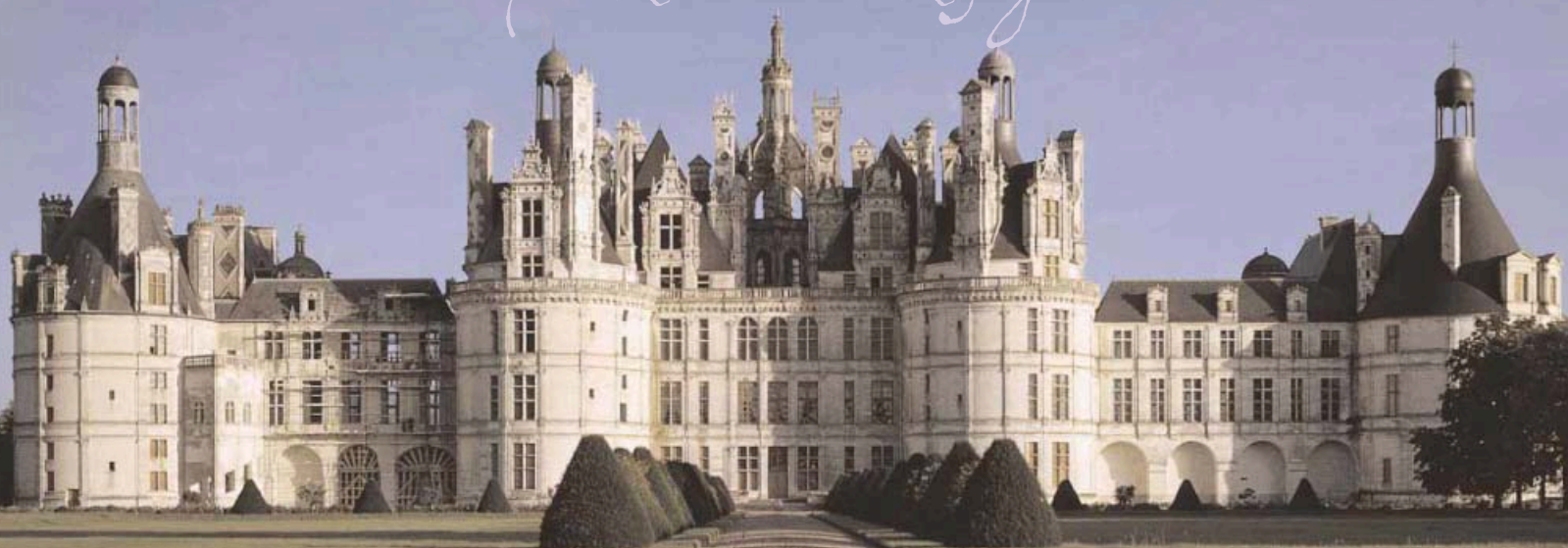
CIRCLE 73 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Old-world style and contemporary performance together under one roof.

Now you can achieve style and performance in one amazingly beautiful roofscape.
DaVinci Slate offers unique color blends and multiple shingle widths – creating a
natural appearance never before achieved in a synthetic slate shingle. Even more beautiful,
it out-performs all other options – as confirmed by its 50-year warranty
Yet surprisingly, a DaVinci Slate weighs and costs substantially less than
quarried slate. Clearly, this is the roof of the future.



A Renaissance in Roofing.



www.davinciroofscapes.com

CIRCLE 74 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

TLCe800H

Looking at four star architects, along with the airports that make their international practices possible

Books

Architectural monographs have come to look like expensive office brochures, with testimonial essays as introductions. Aside from production quality and style, size and weight (no small matters), they differ mainly in the degree of their authors' endorsements: from simple description to unabashed hagiography.

Four new books on the work of Norman Foster, Richard Meier, Mario Botta, and Cesar Pelli are all very beautifully produced in full color. All use the time-tested format of introductory essays by well-known historians/critics, followed by a presentation of buildings and projects.

Beyond this, the books diverge dramatically in content, style, quality, and value for the reader (or those who simply view architectural images, a very important customer). The following reviews are in order of what I deem to be decreasing quality and value (which also happens to be decreasing price and weight).

Thomas Schumacher

Norman Foster Works 4, edited by David Jenkins. New York: Prestel, 2005, 563 pages (7.5 lbs), \$99.

Norman Foster Works 4 is the most ambitious and complete of these four monographs. It is exceptionally comprehensive, with thoughtful essays by well-known authors (at least in the U.K.), including Chris Abel, Francis Duffy, and Peter Buchanan, along with Foster himself. Here, a combination of well-written texts and a clear presentation of the work make the book's \$100 price tag well worth it. Along with the

essays, we are offered informative text about each project.

The first piece, by Abel, begins with an overall assessment of the Modern movement, its life, its "death" (the destruction of Pruitt-Igoe in 1972), and the Postmodern refutation of Modernism. Abel concludes that only a technological Modernism can tackle the architectural problems of today and tomorrow. For him, Foster's work becomes the natural and inevitable result of the forces of nature, technology, human relations, and economics. Abel presents a chronology of Foster's high-rise buildings, while overstating their importance in the history of world architecture. (I am reminded of Zhou Enlai's response to Henry Kissinger's question as to what the second-most-powerful man in Communist China thought of the French Revolution: "Too soon to tell.")

This does not detract from what is a monumental documentation of an architect's work. There are almost 100 pages devoted to Foster's rebuilding of the Reichstag in Berlin, with preliminary drawings and models, analytical diagrams, comparative studies, construction photos, and the finished product. This is one of the most complete representations of an architect's work I've seen, making it worth its weight. Buchanan's engaging essay on the Reichstag combines formal analysis and description, historical analysis and anecdote.

Duffy, an expert on office planning and design, gives a glowing account of Foster's innovations in that realm, plus an analysis of why the logic and use of symbol made

Foster's solution to the World Trade Center competition the best entry. Duffy claims, "Unlike all the other entries, Foster's towers rose to the occasion—they were neither gestural nor arbitrary." Unfortunately, this statement is unsupported with argument; but then, Duffy is promoting Foster. His explanation of why American skyscrapers are different from those in the rest of the world is well worth reading.

Despite such brief excursions into unreasoned praise, the essays in this volume are both informative and convincing. Foster's buildings are presented for what they are: technologically advanced and aesthetically enticing.

This book should not be placed on your coffee table for two reasons: First, it might collapse the table, and second, it deserves to be on your desk to return to from time to time, to peruse the descriptions, the essays, and the images. T.S.

Richard Meier, Architect, Volume 4, by Richard Meier. New York: Rizzoli, 2004, 432 pages (5.2 lbs), \$80.

This is the most beautiful book of the group. The antiseptic images have surfaces so clean they almost squeak off the pages. The photos are so perfect they look surreal. The sky is so blue, it can't be real—or is it? These images flawlessly display the essence of Meier's architecture. (Digital photography serves him well.)

Unlike other essayists, Meier's are not engaged in hagiography. Both Frampton and Rykwert give us



straightforward descriptions. Frampton's text is mostly laudatory, but Rykwert makes a measured, almost wry attempt at criticism, often of Meier's clients.

The images and drawings are so amazing they make you wonder what is real and what is Memorex. Not only do the computer-generated pictures look good enough to be real, but the real photographs look good enough to be computer-generated. Some are combinations of both. This is unnerving and distracting, as if to make the point that all these images are interchangeable.

Meier's plans make it easy to "read" the spaces, and his elevations—with their black shadows—complement the style of the architecture. Italian historian Giorgio Ciucci has described this sort of imagery, particularly in photographs, as a kind

Books

of architectural pornography; that is, a substitute for the real thing. Is one condemned to disappointment upon seeing the actual buildings?

For architects trying to understand the ideas behind an architect's buildings through images, this book is exemplary in its presentation. T.S.

Mario Botta: Light and Gravity: Architecture 1993–2003, by Gabriele Cappellato, Giuliano Gresleri, Lionello Puppi, and Heinrich Thelen. New York: Prestel, 2005, 267 pages (3 lbs), \$65.

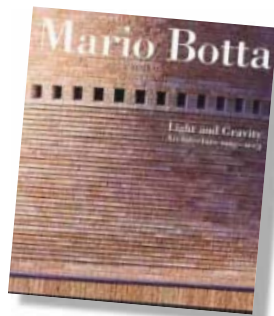
The subtitle *Light and Gravity* is the perfect leitmotif for Botta's buildings. They are heavy masses for which light and shadow, both inside and out, are primary qualities. (I am reminded of Sir John Vanbrugh's epitaph: "Lay heavy upon him earth, for he laid many a heavy load on thee.") Botta's work is the most material of this

group, perhaps of any famous contemporary architect. But it is also very abstract, generating forms that do not derive from the construction methods typically used for these materials.

Abstract too is Giuliano Gresleri's essay. He describes Botta without actually saying much about the buildings, though he writes extensively about their context. Gresleri's piece is a little like contemporary music criticism, or writings on wine: Many images and metaphors, but the metaphoric frames are remote and opaque. And Gresleri's text is translated so close to the Italian that it sounds stilted. For example: "The cataloger and collector of images ... Botta can subject history to an analysis that also permits its recovery, and thus he can

imbue design with recognizable meanings."

Lionello Puppi waxes even more lyrical. Concerning Botta's ori-



gins: "The inspiration for Botta's objective inclination came from the outlines of the hills and mountains of his hometown, Mendrisiotto. These profiles marked the boundaries of the enchanted world of childhood and adoles-

cence...." At least Puppi provides a chronology of Botta's intellectual development and a connection to his Ticino contemporaries and other architects of the 1960s through 1980s. He also mentions Botta's debt to Le Corbusier and Louis Kahn, especially "[Kahn's] exhortation to look to 'the past as a friend.'" Indeed, Botta looked to Kahn himself as a "friend," particularly as regards massing. Gresleri quotes Botta himself about his childhood, saying his mother would exhort him, "Go, and

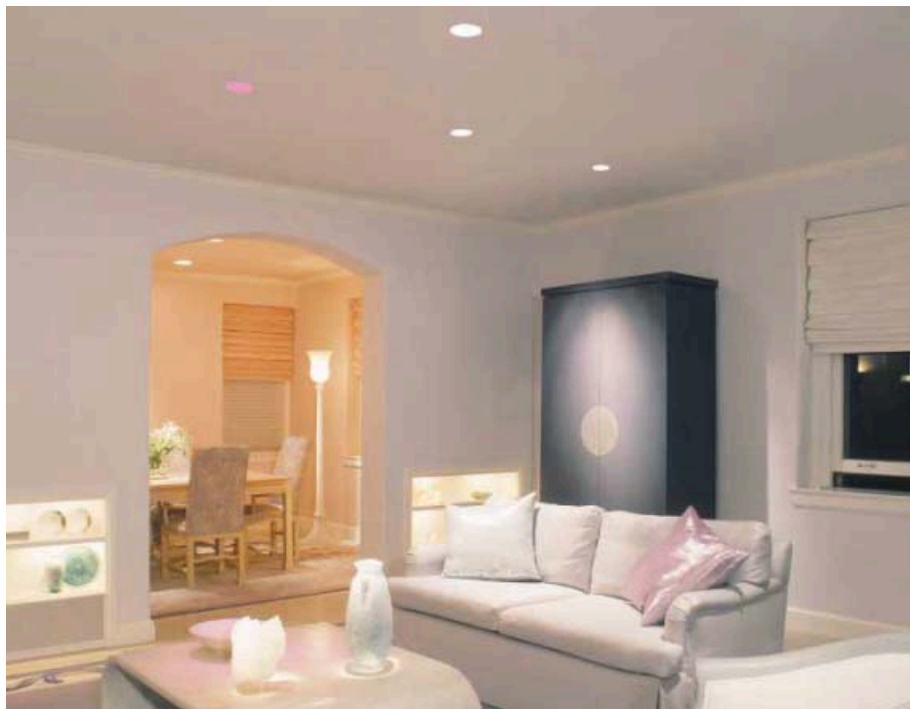
don't waste time." Botta has always been an architect in a hurry.

A final essay by Heinrich Thelen on Botta's drawings, which are liberally sprinkled throughout the text, is totally opaque. The drawings are helpful in understanding his design process, but the plans of his buildings don't adequately inform the reader about the architect's spatial themes. This is a book for the nonarchitect.

Botta, like Meier, has been true to his origins, and the style of his buildings has changed little: their characteristic motifs and "signature" make them identifiable. Unlike Meier (and perhaps more like Robert Venturi), Botta's work is least convincing, to my mind, in the passages where his signature is most apparent, as in the persistent slot motifs and decorative screens that occur in many elevations of his public buildings and houses.

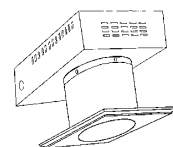
Botta's newest built work includes the MART (Museum of Modern and Contemporary Art) in Rovereto near Trento, Italy; the Cymbalista Synagogue and Jewish

When a hole in your ceiling is *a good thing*.



Kenneth Rice Photography — www.kenricephoto.com

Our "Hole in the Ceiling"



fixtures are plaster/fiberglass castings.

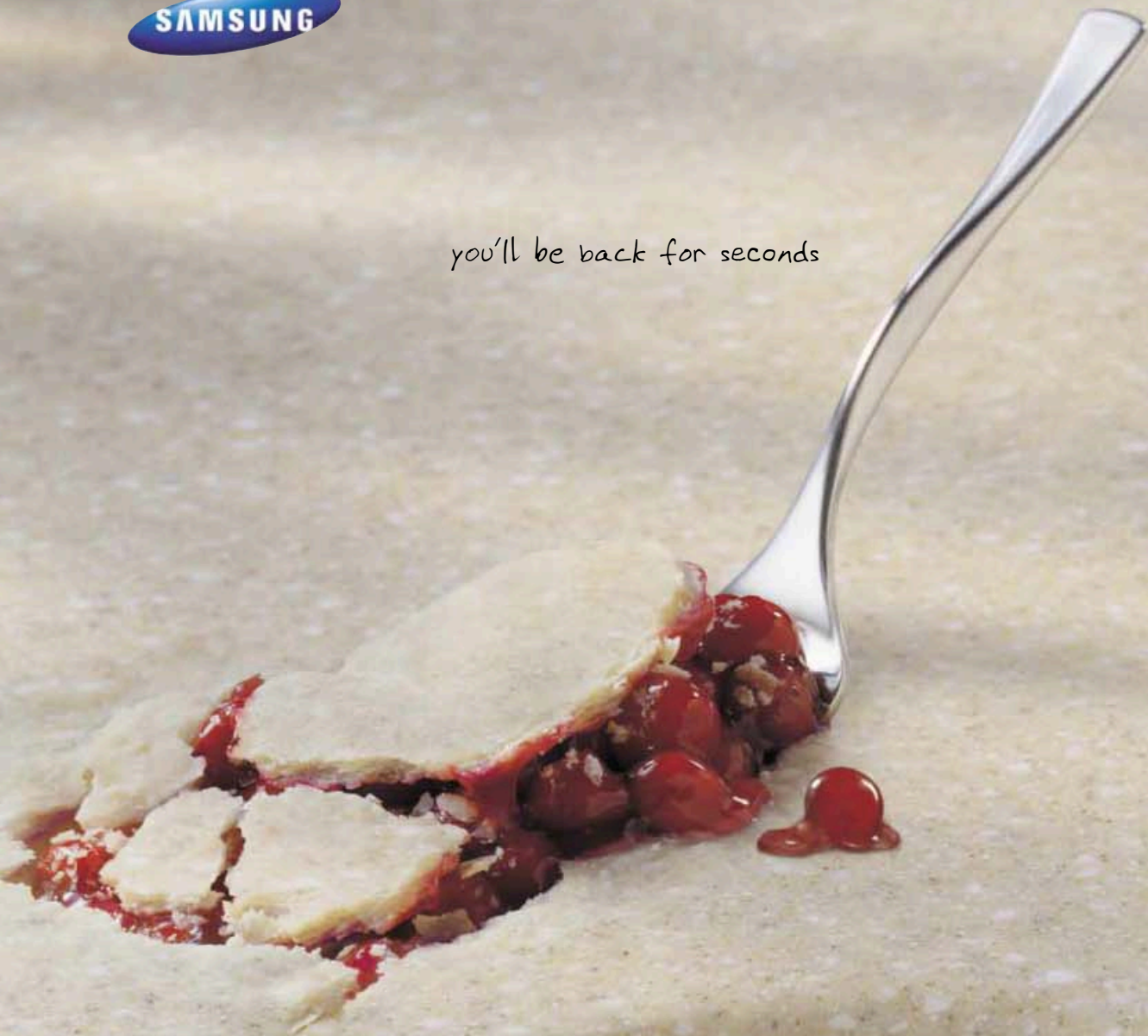
They illuminate your space without calling attention to themselves. Call us for more information at 626.579.0943 or visit our website today at www.elplighting.com.

**ENGINEERED
LIGHTING PRODUCTS**





you'll be back for seconds



ONCE YOU GET A TASTE OF WORKING WITH STARON® THE SOLID SURFACE MATERIAL BY SAMSUNG, YOU'LL BE BACK FOR MORE. That's because Staron offers more than 50 colors and a full line of sinks and bowls to complement any commercial or residential design. It's also durable and a great value that leaves room in a budget for other key upgrades. And with Staron, you can include custom inlays, backsplashes and edge treatments in your designs. To learn more about how Staron can sweeten your projects, visit www.getstaron.com/design3 or call 1.800.795.7177 ext. 350.

COUNTERTOP | PEBBLE GOLD SINK | BRIGHT WHITE

© 2005 Cheil Industries Inc. Staron has been certified by NSF International under its NSF51 rating for food zones.

staron®

**CIRCLE 76 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/**

ILLUSTRATION

Books

Heritage Center in Jerusalem; and the Piazzale della Pace in Parma, Italy. The last is one of the architect's finest works, in my opinion, recalling the best of Carlo Scarpa's buildings of a generation ago. (Botta studied at the University of Venice near the end of Scarpa's tenure.) As is made clear in this book, the Piazzale della Pace exemplifies what is best in Botta's work: a sensitivity to scale, materials, and massing in the dense urban contexts in which his projects are located. *T.S.*

Sections Through a Practice: Cesar Pelli and Associates, edited by Raul A. Barreneche. Germany: Hatje Cantz Verlag, 2004, 247 pages (4 lbs), \$40. (Distributed in the U.S. by D.A.P.)

The title *Sections Through a Practice* could allude to how the work is presented—as if an egg

slicer got to the graphics. The format and Bruce Mau's design tend to make many of the images unintelligible. The book includes a pullout, foldout chart of elevations of the tall buildings Pelli has built, from the tallest, 1,483 feet, to a mere 283 feet. It is a very impressive array of built work, but it's difficult to imagine why the foldout is also a pullout. (Do the editors expect us to hang it on our living room wall?)

Graphic design has run amok here. Raul Barreneche's short introduction superimposed over what must be the metaphoric "section" of Pelli's practice is almost impossible to read. The rest of the illustrations are artful, but not particularly edifying or explanatory.

Following 13 pages of uncaptioned photos of Pelli's studio, we are treated to photo portraits of Pelli's tall buildings and then to close-ups of curtain walls, some of which are very

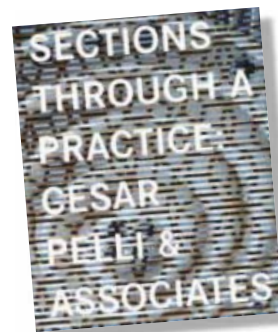
elegant. But it would be nice to see some details, wall sections, and such.

When we get to the two primary essays, by Joseph Giovannini and Hiroyuki Suzuki, our frustration abates a bit. Giovannini describes Pelli as an ideological agnostic, whose work, like that of his mentor Eero Saarinen, is a poetic expression of the program and can, therefore, vary from project to project. Giovannini's essay, while waxing a bit too poetic at times, is clear and progresses logically. Suzuki's places Pelli's work in its historic and geographic contexts. Again, the typography makes these pieces difficult to read.

Trying to find anything in this book is frustrating, and the frustration is compounded by the "Inventory" in the back, where single photos of various buildings tease us into thinking we might find them in

the text. No such luck.

You have to wonder what audience this tome is aimed at. Architects will want more: plans, sections, documentation of the work. Nonarchitects will need more general essays. An architect of Pelli's stature deserves much, much better, and his low-rise buildings deserve more coverage. *T.S.*

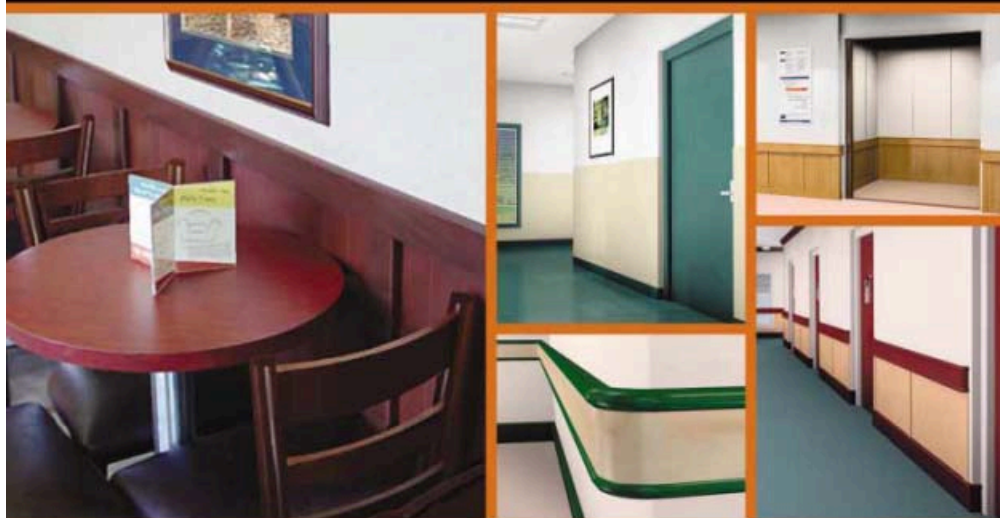


Airports: A Century of Architecture, by Hugh Pearman. New York: Abrams, 2004, 240 pages, \$75.

Naked Airport: A Cultural History of the World's Most Revolutionary Structure, by Alastair Gordon. New York: Metropolitan Books, 2004, 305 pages, \$28.

For all our complaints, airports remain evocative portals to faraway worlds, both concrete and intangible. At once building type and social phenomenon, airports epitomize

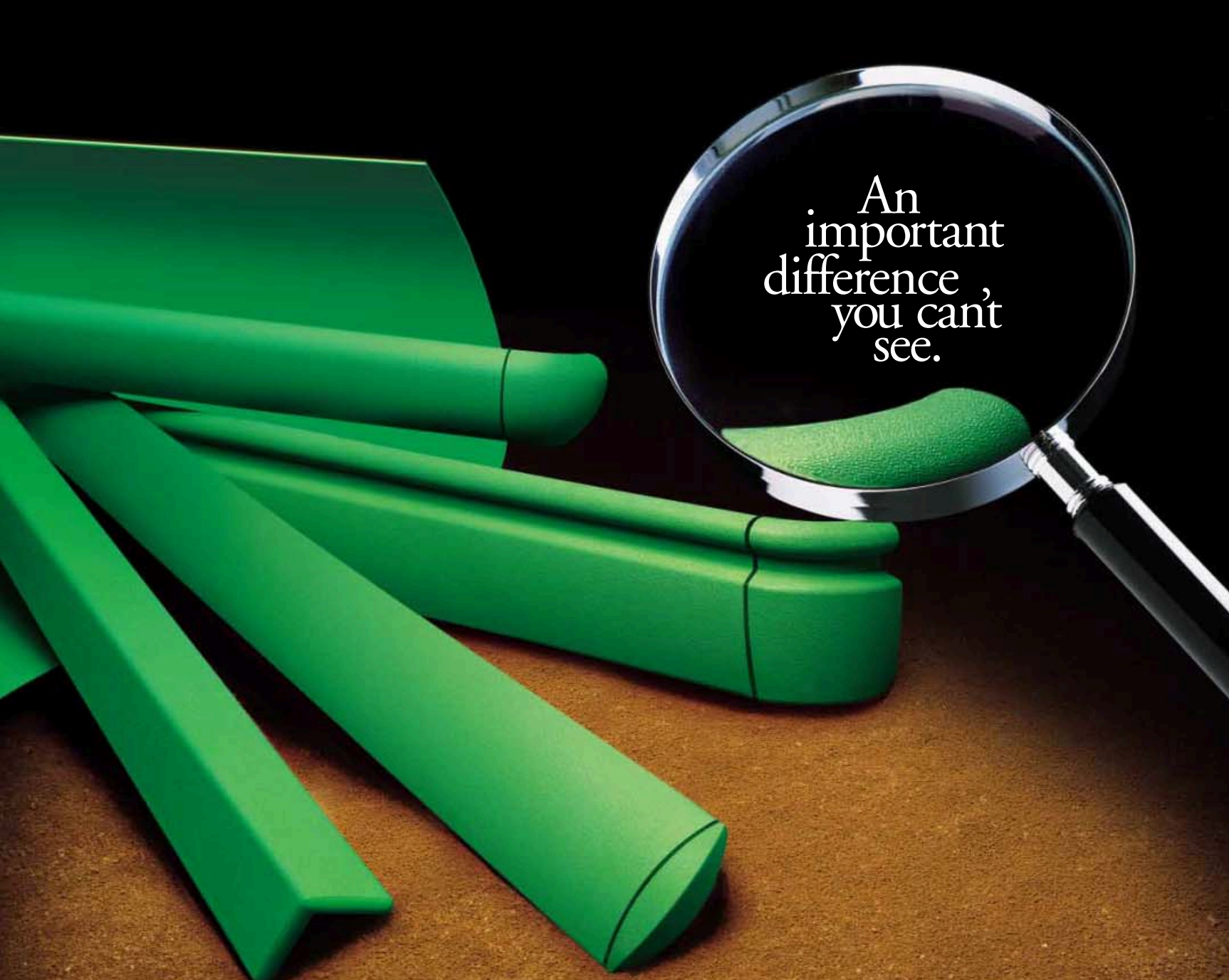
Good Looks & Integrity



Kwalu offers a complete line of **virtually indestructible**™ wall protection systems. We offer a 10-year warranty on construction and finish and multiple mix 'n match options. Contact us at 800.405.3441 or www.kwalu.com.

Wainscot Paneling • Handrails • Door Protection
Wall Covering • Wall Guards • Corner Guards • Wall Base

Kwalu®
virtually indestructible™



An
important
difference,
you can't
see.

Introducing environmentally friendly C/S Acrovyn® 3000.

New PVC-Free Acrovyn® 3000 performs better than traditional Acrovyn Wall Protection. **It has the same outstanding impact resistance, Class I fire rating, universal code compliance and comprehensive color range.** But the important difference you can't see with Acrovyn 3000 is its built-in protection for our environment. For literature detailing the comprehensive Acrovyn 3000 line—including Wall Covering—and its timely, exciting benefits, **call 1-888-621-3344 or visit www.c-sgroup.com.**

CIRCLE 78 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

See us at Booth #3242 AIA Convention

TLFeBOOK



Books

our collective obsession with time and space, making them a particularly appealing subject for a book. But a difficult one, too: Airports are always changing, inherently fragmented, and complicated by engineering and logistical issues.

Hugh Pearman, architecture correspondent for *The Sunday Times* in London, and Alastair Gordon, contributing editor to *House & Garden* and *Dwell*, have both risen admirably to the challenge, but with strikingly different approaches. Gordon's *Naked Airport* offers an engaging, breakneck narrative of airport history since the 1920s. Pearman's far weightier and more architecturally focused *Airports: A Century of Architecture* illustrates a thematically organized approach with hundreds of beautiful, large, and often surprising color photographs.



tographs. Differences in format aside, the two books are, in many ways, reciprocal: Gordon's is anecdotal and playful, while Pearman's is analytical and thorough.

But if Gordon's *Naked Airport* is more fun, its story is sadder. As he tells it, airports' best days are behind us, having peaked in a fleetingly glorious jet age in the early 1960s before commencing a death spiral to what Gordon terms "the sterile concourse" of today. The first chapters are evocative and fresh, full

of aviation derring-do and colorful anecdotes from the early jet-set period. Gordon's handling of Juan

Trippe, the visionary behind Pan Am's early growth in the 1920s, for example, is beautifully evocative, as is the tale of Fiorello La Guardia and the creation of his namesake New York airport. In these chapters, the book meets its ambition of being a cultural history: It draws a fuller picture of airports' social relevance by focusing on them as places

rather than buildings and bringing in a range of literary and pop-culture references. But in the end, Gordon's total lack of affection for the post-1960s era leaves what would seem some exciting stories untold. Not even Norman Foster's Chek Lap Kok in Hong Kong escapes unscathed from Gordon's declaration that at airports, "all vestiges of utopia have been lost."

Pearman's view is more triumphant—perhaps because *Airports'* perspective is more architectural; it deals far less with travel's

faded glamour. It matters as well that Pearman's tastes run to the high-tech. As a London-based critic and the author of a monograph on Nicholas Grimshaw, his heroes of airport design are clear: Eero Saarinen (of course), Grimshaw, Renzo Piano, Norman Foster, and Paul Andreu, but also workhorses like HOK and Fentress Bradburn. Indeed, Pearman shows surprising and ultimately enlightening patience in tracing the influence of the American megaterminals (Dallas and Atlanta, primarily) on the next global generation, and also in recognizing the importance of planning and engineering on the continuing evolution of the building type. As a writer for the popular press, his prose is always clear, but in recognition that this is a serious book for a serious audience, his conclusions are never flip. The result is the rare coffee-table-size book that is a comprehensive, nuanced work of scholarship.

Bring *Naked Airport* on the plane; but keep *Airports* close to your desk at work. *Andrew Blum*

Since 1955
Kalwall® 50 Years of Innovation!
...Light-Years Ahead!™

The leader in daylighting.

**The most highly insulating fenestration...
LEED™ credit Contribution in 6 separate categories.**

Now... with Super-Insulating Nanogel®.

800-258-9777 (N. America)

See more at kalwall.com

For monumental, translucent clearspan Skyroof™ systems, consider our strategic partners...

Structures Unlimited, Inc.

And for tensioned fabric structures...

SPAN SYSTEMS, INC.

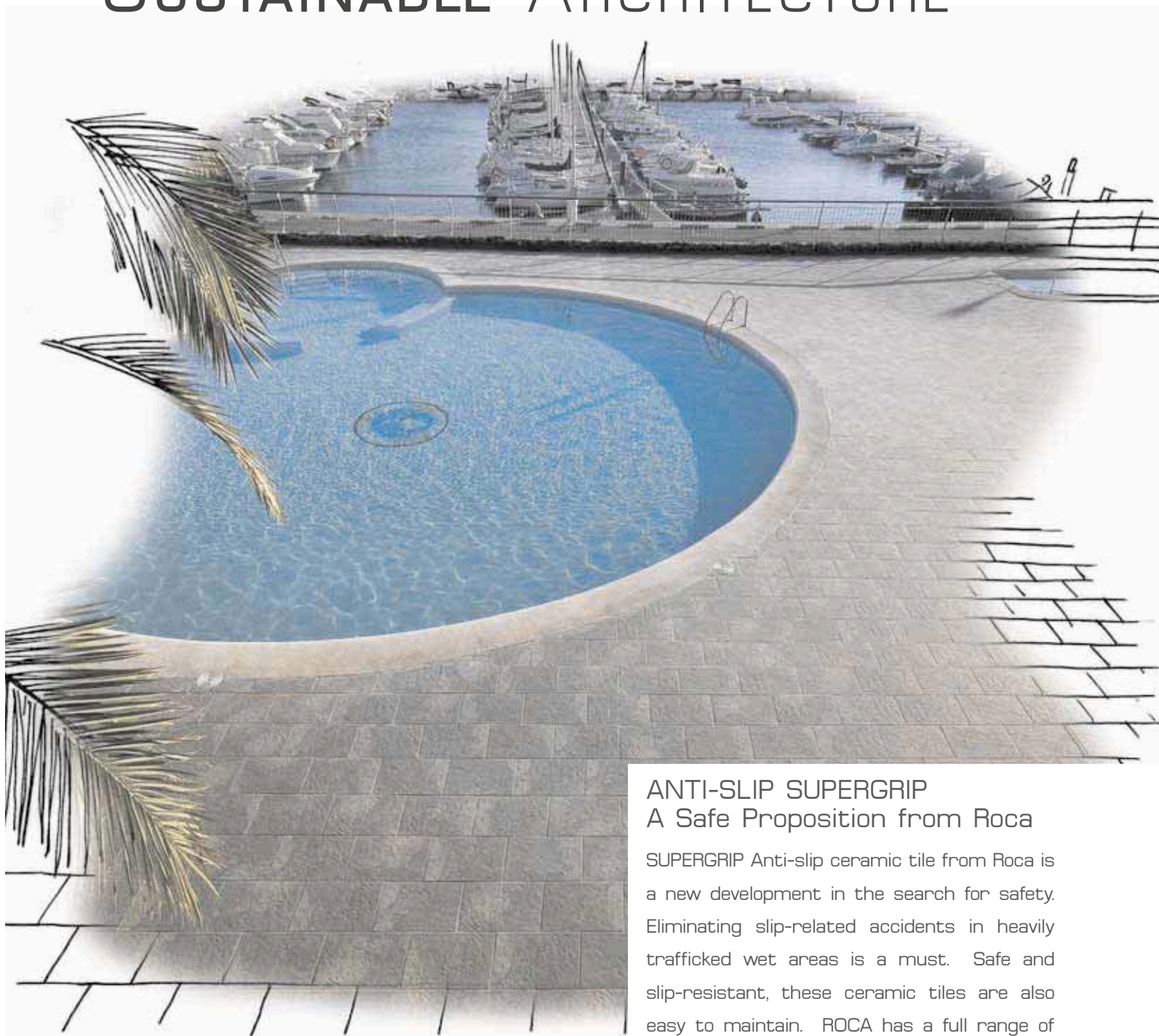
**CIRCLE 79 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/**

Fletcher Priest Architects; Chris Gascoigne/View Photo



TLEB004

SUSTAINABLE ARCHITECTURE



ANTI-SLIP SUPERGRIP A Safe Proposition from Roca

SUPERGRIP Anti-slip ceramic tile from Roca is a new development in the search for safety. Eliminating slip-related accidents in heavily trafficked wet areas is a must. Safe and slip-resistant, these ceramic tiles are also easy to maintain. ROCA has a full range of ROCK&ROCK SUPERGRIP products that meet European and American safety standards.

**Rock
&
Rock**

Projects Department
proyectos@rocatile.com

Roca

Visit us at the Tile of Spain Pavilion at AIA, Las Vegas, May 19-21, Booth #4046.

CIRCLE 80 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

TLFeBOOK

Your Vision Reflected in Glass

Aurora Place
Sydney, Australia

Architect:
Renzo Piano

Glass:
500,000 sq. ft.

Glazing Contractor:
Permasteelisa

Photographer:
John Gollings/RPWS

To mentally picture something never experienced is to have vision. It's what sets you apart.

Whether your vision makes a creative splash against a city skyline...introduces a high-tech solution for environmental comfort...or is grounded in a more straightforward approach...Viracon is the "go to" company for architectural glass. **With Viracon, you'll have access to the most complete range of products and services offered worldwide.**

Rest assured, the glass you specify will perform just the way you planned. We've got you covered with over 30 years of experience; unparalleled technical expertise; and all glass fabricating processes under one roof.

Partner with Viracon and see your vision reflected in glass.

insulating
laminated
silkscreened
spandrel
hurricane-resistant
acoustical
blast-mitigating
tempered
heat-strengthened
high-performance coated



"The Leader in Glass Fabrication" TM

Be first to know when we announce new glass products! Just send your e-mail address to glass@viracon.com – and tell us to sign you up for *Viracon Update*, our free monthly electronic message.

CIRCLE 81 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

TLCeBOOK

For information on our glass products, or to have a Viracon representative contact you:

Call toll-free: **(800) 533-2080**

Or call: (507) 451-9555

Visit our web site: www.viracon.com

E-mail: glass@viracon.com

©2003 Viracon, 800 Park Drive, Owatonna, MN 55060

Snapshot



By Beth Broome

Artist Gregory Colbert wanted to share his photography with the world, but was not interested in displaying it in an existing museum or white-box space. So in 2000, he approached Japanese architect Shigeru Ban to design a temporary, transportable museum for his show *Ashes and Snow*, a collection of sepia-toned prints depicting wild animals and humans communing in exotic settings. The resulting 45,000-square-foot Nomadic Museum, which opened on March 5 on Manhattan's historic Pier 54, at first glance could be mistaken for a meticulously stacked pile of shipping containers awaiting pickup by a cargo vessel.

Initially, Colbert had envisioned the museum as one of Ban's signature paper-tube structures. While the architect's first attraction to this unusual building material had nothing to do with its sustainability, it was just this quality that drew Colbert to his work. "Colbert liked what I was doing," says Ban, "reusing existing material and finding a different meaning for it." Ban immediately realized, however, that transporting a museum of this sort would be prohibitively expensive. Borrowing on the principle for his 1998 design for a small traveling exhibition of furniture, Ban proposed to employ steel shipping containers as the principal building unit for the museum. Not only could the containers serve to transport other building components, but additional ones could easily and inexpensively be rented throughout the world, so most

A traveling museum transports urban visitors



PHOTOGRAPHY: © MICHAEL MORAN

Shigeru Ban's Nomadic Museum offers New York City visitors a moment of silence on the edge of a frenetic city. Soon, the museum will pack up and bring the show to Los Angeles and points beyond.



material would not have to be transported at all. A total of 148 containers form the boxlike structure, arranged in a checkerboard configuration with PVC membrane covering the openings. Colbert, who Ban says gave him the freedom to design, was pleased with the decision and particularly appreciated that the world-traveled containers imbued the project with their own histories.

While Ban says he was not inspired by Colbert's art, per se, the idea to articulate the different world of each photo influenced the interior design. Two rows of 2½-foot-diameter recycled paper tubes not only support the trusses for the pitched PVC roof, but also form a majestic colonnaded gallery that gives space to the individual photos. A central walkway made of recycled scaffolding planks runs down the center, bordered on either side by banks of river stones.

The second stop for the museum, on which Ban collaborated with his New York City-based partner Dean Maltz, will be the Santa Monica Pier in Los Angeles. There, Ban will reconfigure the building blocks to fit the site's dimensions, creating a similar, though unique space. This evolving and adaptive nature will, no doubt, come to be one of the project's defining qualities as it travels the world.

Despite all his efforts, Ban's hope is for the museum to disappear and become a backdrop to the art. "It's like going into a cathedral," he says. "First, you're really amazed by the space, but after you sit down and start praying, the space is almost gone." The Nomadic Museum is, indeed, a temple of sorts: a spiritual cloister that shutters out the drone of New York's West Side Highway and the helicopter traffic just beyond its walls. Whether or not the building, in all its quiet splendor, is capable of becoming invisible, however, is another question altogether. ■



FOLLOW THE LEADER



© 2005 BSH Home Appliances Corporation. All rights reserved.

In 1955, Thermador invented the first built-in oven, forever changing the face of the American kitchen. This year we celebrate the 50th Anniversary of this historic milestone with a new collection of ovens offering state-of-the-art features and classic American style. When professional architects and designers want to create a kitchen that makes a bold and dramatic design statement, while offering the advanced functionality that today's consumers demand, Thermador is the brand of choice. Thermador, empowering the kitchen enthusiast for more than 70 years.

WWW.THERMADOR.COM 1-800-656-9226

Thermador | *An American Icon™*

CIRCLE 82 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

ILLUSTRATION



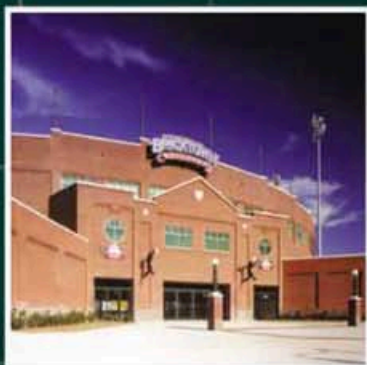
Mortar Net®

USA LTD.

with mortar net
there is **NO**
"or equal"



*Sprint Headquarters
Overland Park, KS*



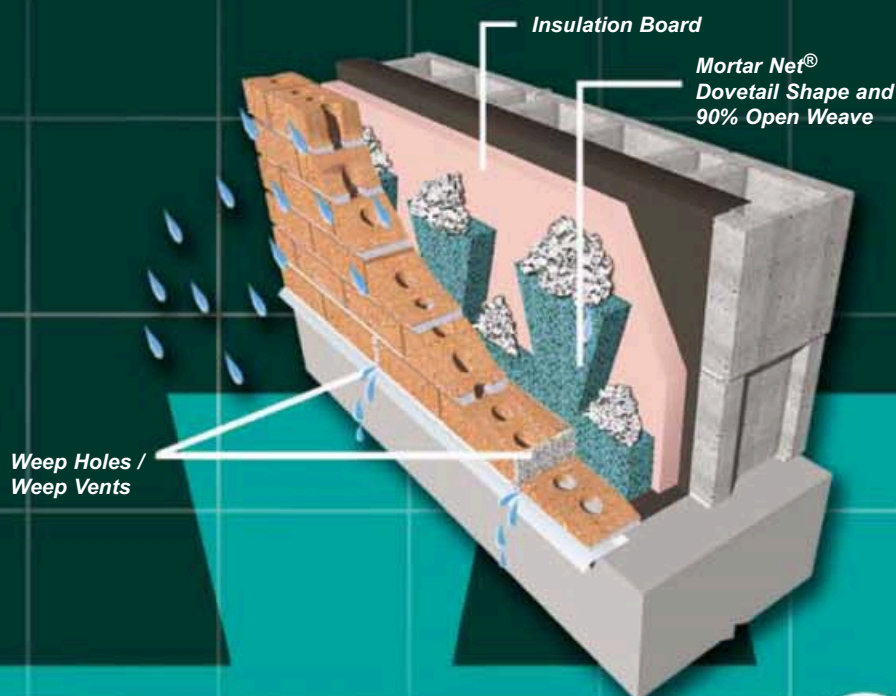
*Bricktown Ballpark
Oklahoma City, OK*



*Sioux City Townhall
Sioux City, IA*

At Mortar Net USA, we invent solutions. We've won multiple U.S. patents for our low-cost systems that effectively prevent moisture-buildup in open-cavity masonry walls. These simple to install systems feature a tough, 90% open-weave polyester mesh, with anti-microbial qualities, that lets interior moisture drain to the outdoors, unimpeded by mortar-droppings or debris. By eliminating moisture-buildup, we also eliminated efflorescence and freeze/thaw damage. But best of all, our systems help to deliver in the industry's long-fought battle against mold. With many insurance companies no longer covering mold claims, today's builders insist on our patented moisture-dispersal systems. They've discovered there's absolutely no "or equal" for Mortar Net, BlockNet, or Blok-Flash.*

*Source: United States Patent and Trademark Office



800-664-6638

www.MortarNet.com/ar

- Mortar Net® ■ Weep Vents™
- BlockNet® ■ Blok-Flash®

CIRCLE 83 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

TLCeB00H



MODERN GEOMETRY



architecturally inspired, passionately engineered

a breathtaking, handcrafted experience

beauty and scale eclipsed only by its ability
to blend seamlessly into the kitchen landscape

BLANCOPRECISION Series

zero radius bowls ■ nine new designs ■ a whole new benchmark

BLANCO

800.451.5782

www.blancoamerica.com

Stainless Steel Sinks • Silgranit® Sinks • Kitchen Faucets • Bar Sinks & Faucets • Custom Sink Accessories

CIRCLE 84 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

TLCFeBOOK

“



The David L. Lawrence Convention Center in Pittsburgh utilizes 175,000 sq. ft. of Alucobond Material and is the largest building in the world to receive LEED™ certification.

”

ALUCOBOND®

The original aluminum composite material.

It speaks volumes about green.

Shaping The future

Alcan Composites USA Inc. • 800-626-3365 • www.alucobond.com



CIRCLE 85 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

TlFe800H

ALCAN COMPOSITES

American Institute of Architects

2005 Honor Awards

Architecture	p. 116
Interiors	p. 130
Urban Design	p. 146
25 Year Award	p. 152
Firm Award	p. 156
Gold Medal	p. 162

Every spring, *RECORD* provides editorial coverage of the winners of the AIA Honor Awards, which represents the highest recognition of excellence in architecture, interior architecture, and urban design. Projects were selected from more than 630 submissions, with 35 recipients to be honored later this month at the AIA National Convention and Expo in Las Vegas. In addition, in this issue we feature the Gold Medalist, the Firm of the Year, and the 25 Year Award winners.

The jury chairs included Thomas W. Ventulett III, FAIA, chair for architecture, who felt the winners conveyed exceptional qualities of light, space, craftsmanship, sustainability, and context. The chair of the interior design jury, Mark McInturff, FAIA, saw a strong connection of project to place through evocative use of materials and elegant detailing. Michael Willis, FAIA, chair of the urban design jury, said, "This year's projects were all about community-building and grappling with the

differences of edge and place, in order to make meaningful connections to people." Architects are forever harmonizing competing interests in the realization of their work, one of their singular talents.

Santiago Calatrava, FAIA, the brilliant architect-engineer, received the 61st AIA Gold Medal. In recognition of his legacy to architecture, his name will be engraved in a granite wall in the lobby of AIA headquarters in Washington, D.C. The Yale Center for British Art, designed by Louis I. Kahn, FAIA, received the 25 Year Award. The jury noted, "[This building] is one of the quietest expressions of a great building ever seen—so rewarding and exhilarating when you step inside." And lastly, the Chicago firm of Murphy/Jahn received the Firm Award, the highest honor the AIA bestows on an architecture firm, for their consistently forward-looking vision. In honor of these winners, *RECORD* is presenting their work on the following pages. Jane F. Kolleeny

ARCHITECTURE



1. Contemporaine at 516 North Wells

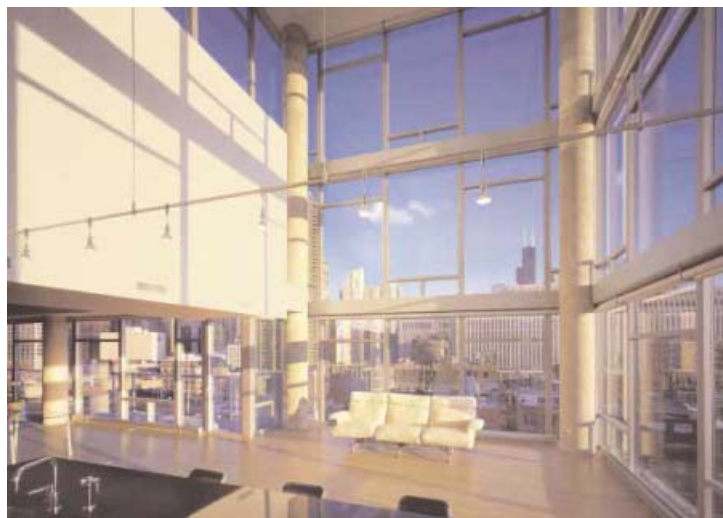
Chicago

Architect: Perkins+Will

Although this 28-unit condominium tower rises higher than most buildings in Chicago's River North area, a neighborhood of warehouses converted for residential and retail use, its sculptural quality and the articulation of its different functional

parts allow it to blend seamlessly into the scale of its surroundings. The building's four-story base contains retail and parking. A glass curtain wall helps enliven the street by revealing the automobile ramps and structural bracing. An 11-story residential tower rises from this base. To create visual energy, the architect "eroded" one corner of the tower and cantilevered balconies on another corner.

"Moves beyond Miesian forms to create a compositional expression viewed from every side."





2. Agosta House

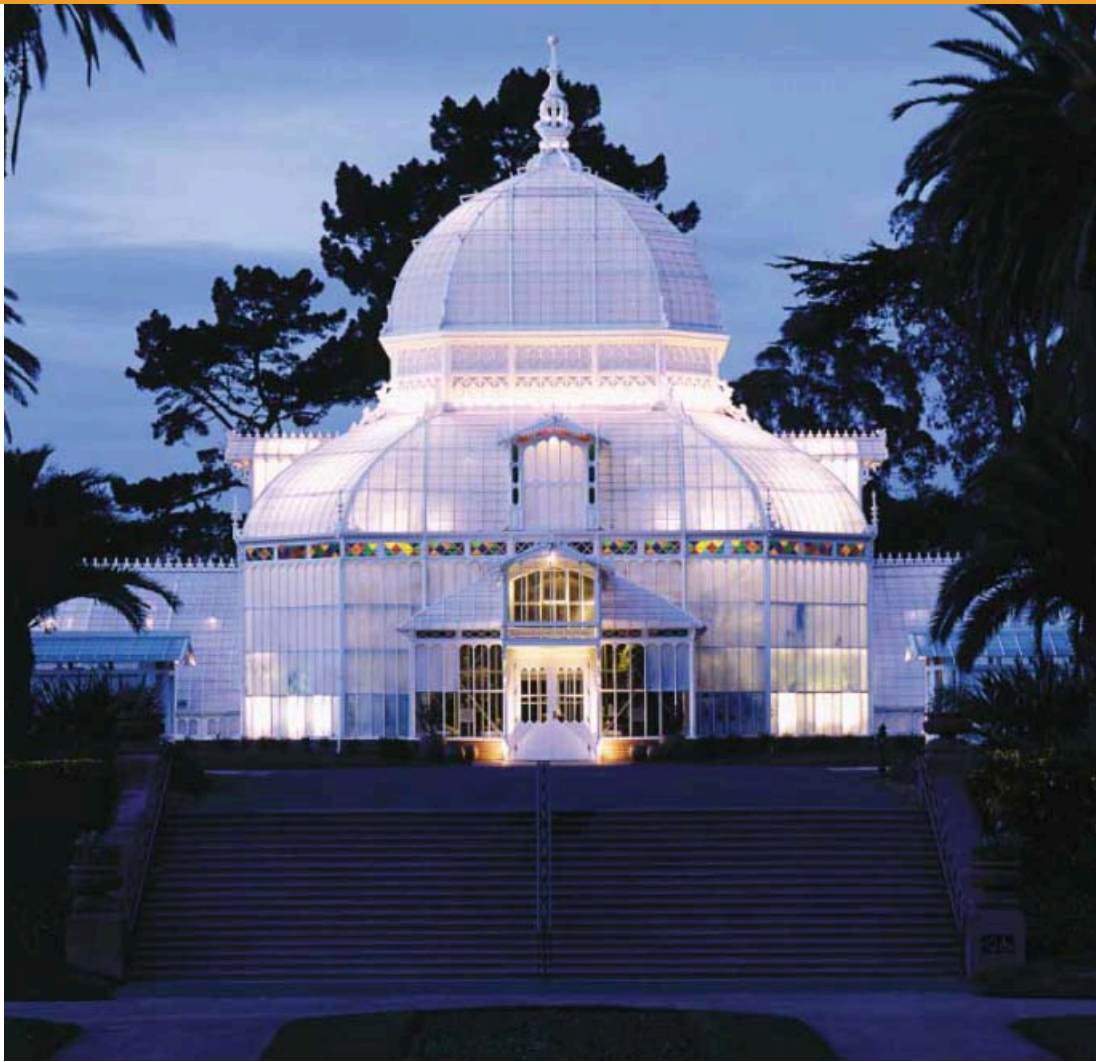
San Juan Island, Wash.

Architect: *Patkau Architects*

Built for clients who were relocating from Manhattan, this 2,775-square-foot residence is situated on a 43-acre estate on rural San Juan Island, Washington. The exterior is clad in light-gauged, galvanized sheet steel, which provides protection against both the weather and forest fires. Exterior walls and roof lines are sloped to mimic the natural grade surrounding the house. The geometry extends into the interior spaces, where nonstructural bulkheads define smaller rooms. Resting on a concrete slab foundation, the structure is a combination of fir timber framing, which is left exposed, and conventional stud framing, which is clad in painted gypsum board.

“Placed in such a way to preserve the integrity of the site, this residence allows the clients to live in harmony with nature.”





3. Conservatory of Flowers

San Francisco

Architect: *Architectural Resources Group in collaboration with Tennebaum-Manheim Engineers*

Located in San Francisco's Golden Gate Park, the Conservatory of Flowers survived countless earthquakes since it opened in 1878. But a series of winter storms in 1995 proved too much for the delicate greenhouse and forced its closure. The architect and engineer collaborated to repair and restore the historic building, insert an HVAC system, and strengthen the structure against lateral forces. The work included replacing wood arches inside the greenhouse that had rotted as a result of humidity. The architect also developed a master plan for the site that includes space for new galleries, administrative offices, and restrooms.

“A glowing icon for the park at night, ornate celebration of greenhouse by day.”



PHOTOGRAPHY: © DAVID WAKELY PHOTOGRAPHY

McGraw Hill
CONSTRUCTION

Architectural Record

☐ U.S. 12 issues at ~~\$117.00~~ **NOW \$64** CAR38DBL

☐ Canada/Mexico 12 issues at ~~\$132.00~~ **NOW \$79**

CAR38CBL

CAR38MBL

☐ Outside North America 12 issues at ~~\$199.00~~ **NOW \$149**

☐ Payment enclosed

Charge my: ☐ AmEx ☐ Mastercard ☐ Visa ☐ Discover

☐ Bill me

Card No.

Exp. Date

Signature

Are you a registered architect? ☐ Yes ☐ No

Name

Title

Firm Name

Mailing Address

City/State/Zip Code

Country

E-mail

For faster service, call: **1-877-876-8093** (outside the U.S., 609-426-7046),
fax your order to 212-904-3150 or visit **www.architecturalrecord.com**

Subscribe
today and
SAVE
up to
45%

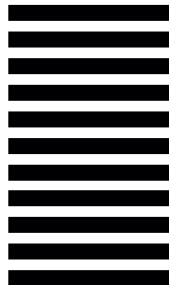
SAVE \$53

off the cover price.





NO POSTAGE
NECESSARY IF
MAILED IN THE
UNITED STATES



BUSINESS REPLY MAIL

FIRST-CLASS MAIL

PERMIT NO. 42

HIGHTSTOWN NJ

POSTAGE WILL BE PAID BY ADDRESSEE

**McGraw Hill
CONSTRUCTION**

Architectural
Record

P.O. BOX 564

HIGHTSTOWN NJ 08520-9890





4. Emerson Sauna

Duluth, Minn.

Architect: Salmela Architect

**“Simple, spare, elegant use of natural materials.
Sheds the water like a duck’s back.”**

Built for clients who grew up with the Minnesotan tradition of sauna bathing, the Emerson Sauna is a provocative arrangement of forms and materials. The sauna room is located on ground level and lined with brick walls, not wood, to allow for radiant heating. Cantilevered from one end of this room is a triangular-shaped upper story that contains a cooling porch. It is essentially a long tube, formed by tightly packed wooden framing, open at both ends to allow breezes to pass through. A vented lap-board roof protects the tube’s structural elements, while sod covers the sauna’s roof.





PHOTOGRAPHY: © JOHN LINDEN

“Barns have finally achieved their heyday in this simple structure located in the hills of California.”

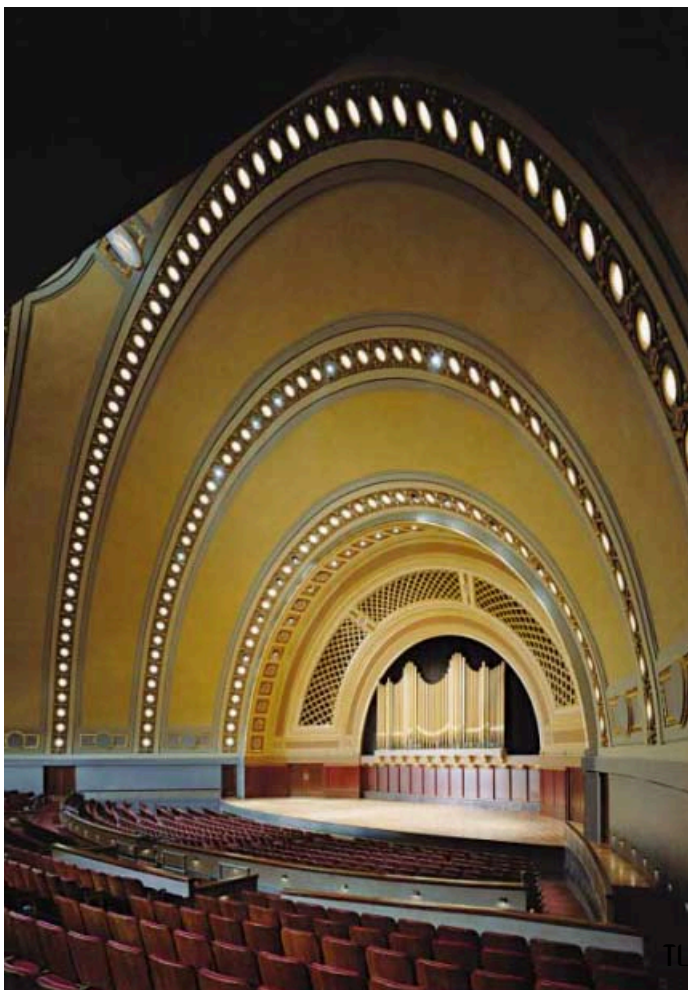
5. Somis Hay Barn
at the Lucky Dog Ranch
Somis, Calif.
Architect: *SPF:a*

In designing this barn and stable, the architect was guided by two contrasting styles: the rhythmic rigor and permanence of Modernism, and the rough, ever-changing quality of *wabi-sabi*, a Japanese aesthetic that finds beauty in imperfection. Modernism's order is expressed by the barn's sleek 12-by-12-foot structural steel system, while *wabi-sabi* is represented by the impermanent nature of the bales of hay that line the exterior walls, insulating them and acting as a windbreak. The hay changes odor and color and is used up one bale at a time, for bedding and feed.



6. Hill Auditorium*Ann Arbor, Mich.***Architect:** QUINN EVANS/
ARCHITECTS (restoration
architect); Albert Kahn Associates
(architect of record)

The University of Michigan's Hill Auditorium is a Classical Revival work originally designed by Albert Kahn. When it opened in 1913, the acoustics of the parabolic performance hall were among the best of its day. The school engaged QUINN EVANS to restore the 3,575-seat auditorium, as well as the building's lobby, monumental stairs, and entrance plaza. It also sought to update mechanical and electrical equipment. A new lower level was created to house gallery spaces, restrooms, and HVAC equipment. This allowed for an expansion of the lobby and the addition of two elevators. A new grade-level entrance now allows handicapped access.



“The architect played a restrained hand in the restoration of the auditorium’s features.”

LOOK CLOSELY. IT'S NOT WOOD.

Introducing Natura™. Aluminum inspired by nature.



Natura™ finish is aluminum that provides everything you love about beautiful wood. Our process creates a natural wood-grain appearance that is baked into the finish for a material that looks as good as wood, yet provides all the benefits of aluminum.



Vistawall now offers you the best of both materials in ten wood finishes.

Go with the grain.

VISTAWALL®
ARCHITECTURAL PRODUCTS

800-869-4567

natura@vistawall.com

CIRCLE 86 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

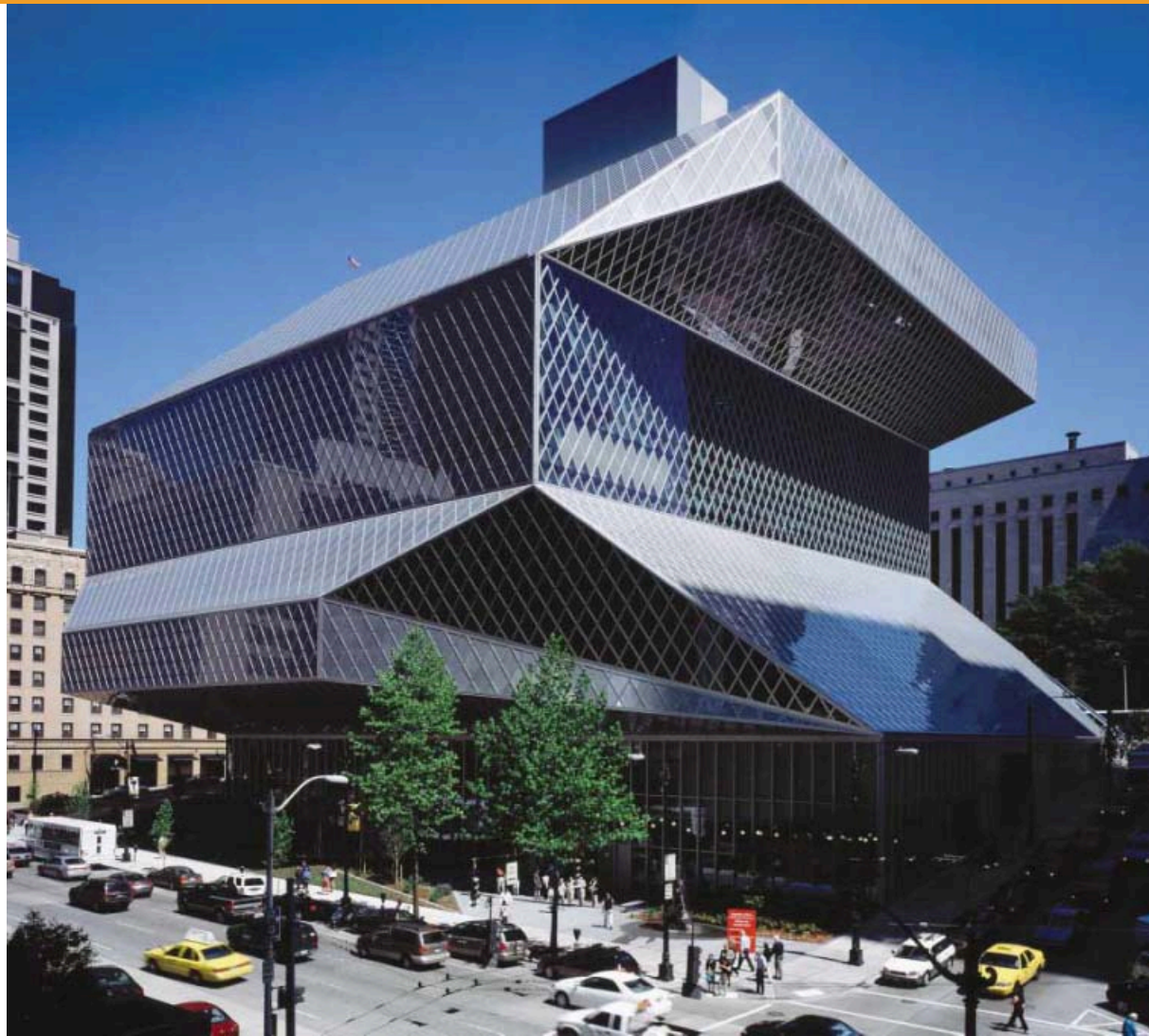
TLEB0004

7. Seattle Central Library

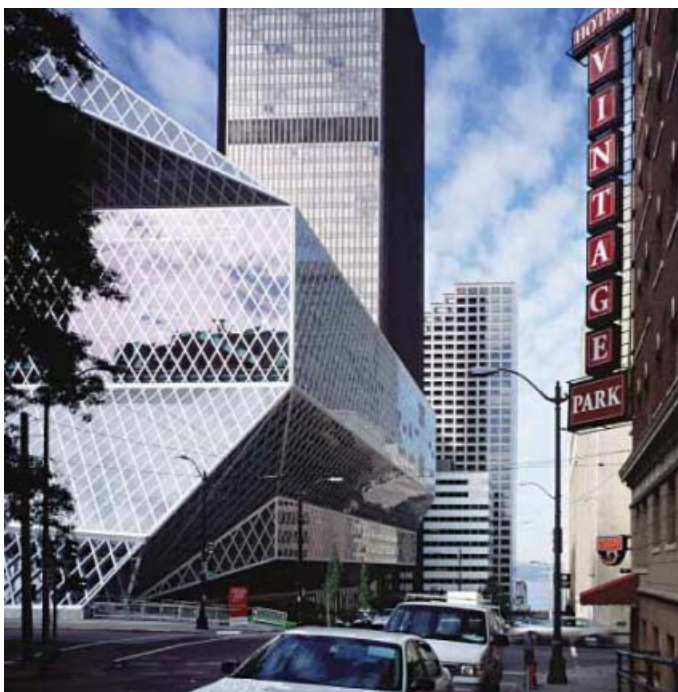
Seattle

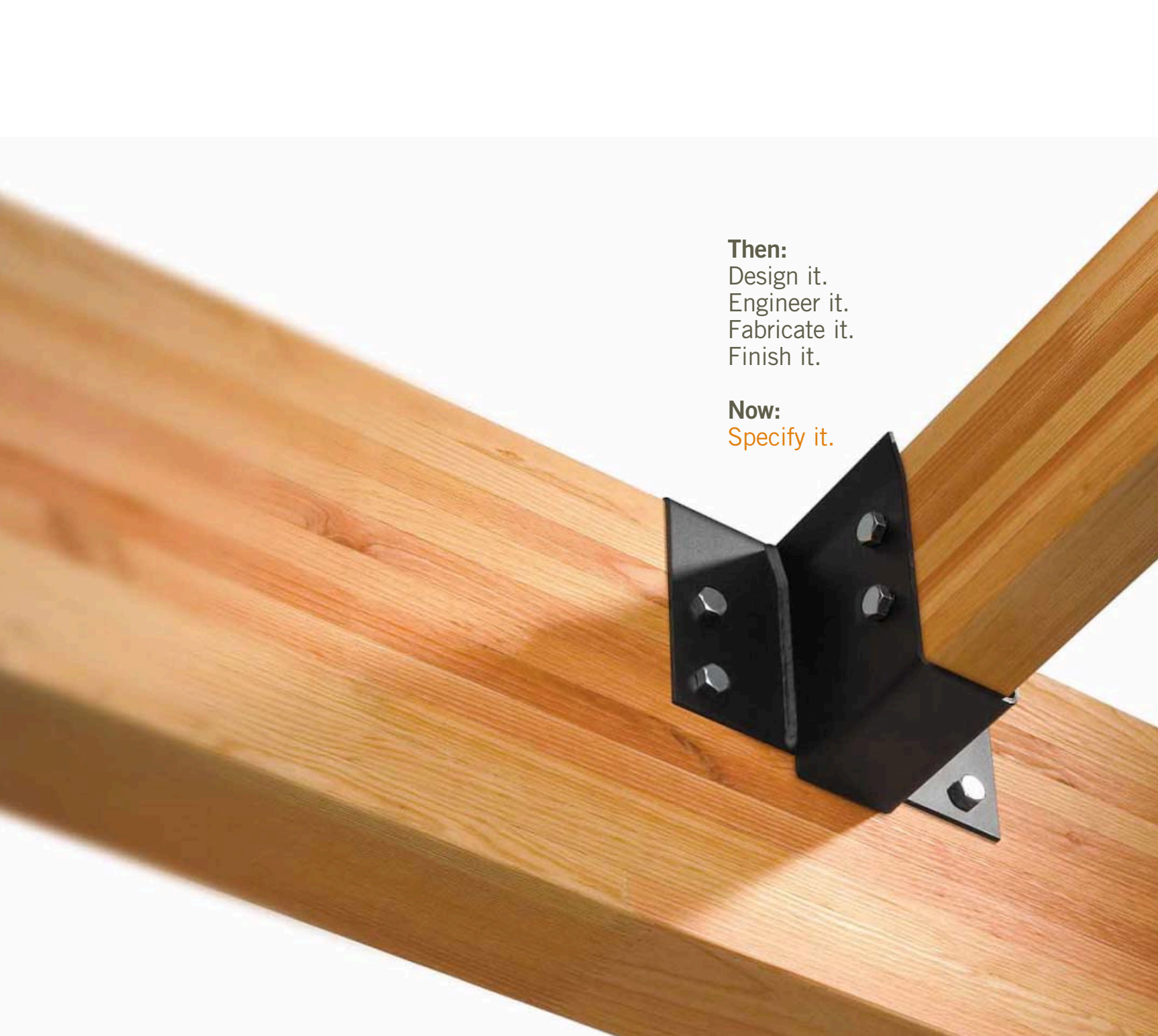
Architect: OMA/LMN—A Joint Venture [*RECORD*, July 2004, page 88]

The architects sought to give each function of the library its own space, big enough to accommodate future growth, rather than creating generic, unprogrammed rooms. The main reading room, or “mixing chamber,” occupies one level; offices another; and books are shelved in a “spiral” of stacks that rises through the building’s middle levels. Floor plates vary in size according to the needs of each function, as well as those surrounding it. These varying sizes produce an iconic exterior defined by surfaces that slope out and in, alternately blocking and allowing daylight into the building.



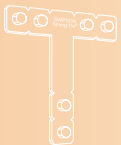
“It is really a beacon for the city.”





Then:
Design it.
Engineer it.
Fabricate it.
Finish it.

Now:
Specify it.



You've always had to custom-design connectors for exposed residential and commercial wood framing, then have them fabricated and finished. Now you can simply specify them. The new **Architectural Products Group** from Simpson Strong-Tie® offers a wide range of prefabricated connectors that combine load-rated structural integrity with decorative architectural detailing. To see the full line visit our Web site, or call 866.860.9011 to learn more.



www.ExposedConnectors.com/Details9

CIRCLE 87 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

TlFe800H



“The detail and material resolution transcend the hierarchy of a corporation.”



8. Gannett/USA Today Corporate Headquarters

McLean, Va.

Architect: Kohn Pedersen Fox Associates [RECORD, May 2002, page 212; November 2003, page 102]

The architect designed this corporate headquarters to be flooded with natural light. Shaped like the letter V, its two wings reach toward a pond that doubles as a storm-water-retention basin. The building's two narrow wings mean that most offices, newsrooms, and common spaces receive ample daylight. The building's exterior is clad in lightly reflective glass that is accented by projecting glass fins, whose beveled edges refract a prismatic spectrum.

9. Jubilee Church

Rome

Architect: Richard Meier & Partners Architects [RECORD, February 2004, page 100]

The architect based the proportional structure of this building on a series of circles and squares. At the church's southern end, three circles of equal radius define the profiles of the three concrete shells that compose the nave. The three shells refer to the Holy Trinity. Secular spaces are confined to the building's northern end. This rectilinear space contains a plaza and community center open to residents from the surrounding neighborhood.



“Spectacular daylight: dappled, kinetic, openness in spirit. The quality of the light is breathtaking.”



10. Shaw House

Vancouver

Architect: Patkau Architects

[RECORD, April 2002, page 95]

Zoning limited the width of this 3,071-square-foot house to just over 26 feet, so the architect organized spaces vertically: Living areas are grouped at grade level; a music room is located below grade; and private spaces are located above grade. A lap pool runs along one side of the house above grade, reflecting light into lower levels through clerestory windows. The house is constructed of reinforced concrete, left exposed or insulated and clad with painted gypsum board.

“The water is a thematic strain that ties the house together with spectacular views over Vancouver.”

11. Mill City Museum

Minneapolis

Architect: Meyer Scherer & Rockcastle

[RECORD, February 2004, page 122]

Touted as the world’s largest mill when it opened in 1880, this building—once home to General Mills and Betty Crocker—fell into disuse and was gutted by a 1991 fire. Preservations saved the mill and sought an adaptive reuse for it. The architect inserted a glass-enclosed museum and office spaces into the ruined exterior walls, creating a pastiche of old and new, opening a porous visual connection to the Mississippi River.

“A complex and intriguing social and regional story that reveals itself as the visitor progresses through the spaces.”



PHOTOGRAPHY: © PAUL WARCHOL (TOP); ASSASSI PRODUCTIONS (BOTTOM)



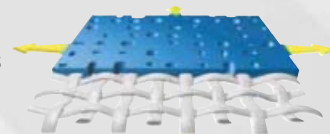
LIGHT PROTECTION AS EFFICIENT AS THE DAY IS LONG.



SOLTIS® 99 **SOLTIS® B92-N**

SUN, YOU'VE MET YOUR MATCH.™

When it comes to protecting an indoor environment from the harsh glare of the sun, nothing does the job like Soltis®. High-performance Soltis® textiles filter even the most intense sunlight, eliminating the annoying reflections that can make it difficult to work at a computer screen. Yet, they control luminosity and preserve natural light to provide optimum visual comfort. We also offer fabric that provides total black-out, if that's what your environment requires.



Exclusive patented technology
PRECONSTRAINT FERRARI

What's more, Soltis® fabrics are manufactured to look and stay beautiful. With our patented Preconstraint® technology, Soltis® fabrics are stretched during the entire production process. The result is unrivaled dimensional stability that ensures our textiles will never bag during installation or intensive use. And with our stunning range of fade-resistant colors, Soltis® fabrics integrate easily into all facades, buildings and environments.

See for yourself why more and more architects are specifying Soltis® fabrics for their indoor environments. Call us today at **954-942-3600** or visit us at **www.soltis-textiles.com**. And let us open your eyes to the best light protection solution under the sun.

FERRARI



1510 SW 5th Court, Pompano Beach, FL 33069
Tel 954-942-3600 Fax 954-942-5555 www.ferrari-textiles.com

TlFeBOOH

CIRCLE 88 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

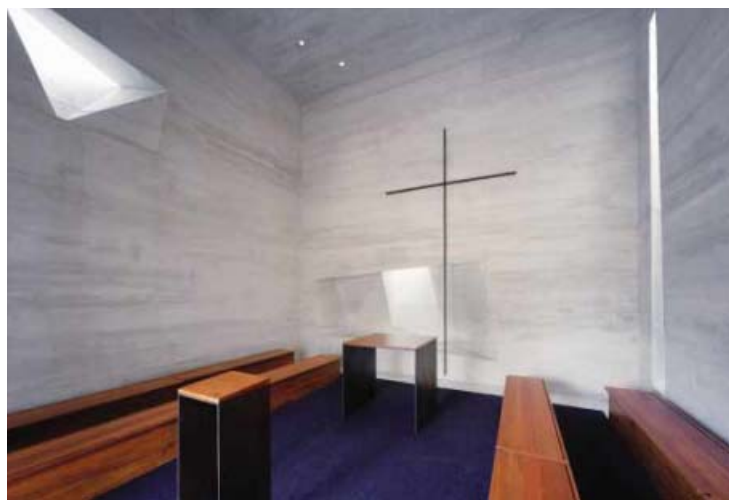
12. Holy Rosary Catholic Church Complex

St. Amant, La.

Architect: Trahan Architects
[RECORD, May 2005, page 246]

The secular functions of this rural church complex are grouped in perimeter buildings that surround an internal courtyard, at the center of which is a

chapel. In designing this sacred oratory, the architect was inspired by the womb: a “pure and comfortable” space that lacks directions such as up and down. Accordingly, all finished surfaces in the chapel are treated equally. Eschewing rare and costly materials, the architect chose a palette of board-formed concrete, plate glass, and cast glass.



“A lovely procession: The journey is as important as the arrival.”



“A very special capturing of the landscape in Georgia.”



13. Mountain Tree House

Dillard, Ga.

Architect: Mack Scogin Merrill Elam Architects
[RECORD, April 2003, page 170]

After the arrival of their grandchildren, the clients wanted to add an extra bedroom and garage to their weekend retreat in the Appalachian foothills of northern Georgia. The garage, which contains a work space as well as storage, is walled by unfinished concrete inset with long windows. The new guest room is cantilevered above the driveway. This volume is clad by walls of both tempered and translucent laminated glass. Movable walls in a new bathroom allow for outdoor bathing.

PHOTOGRAPHY: © TIMOTHY HURSLEY

WATER DELIVERY. ENHANCED.

METICULOUS CRAFTSMANSHIP.

THE FINEST MATERIALS.

FAUCET, ACCESSORY AND LIGHTING ENSEMBLES.

ENHANCE YOUR SPACE, AND MAYBE YOUR SOUL.

DESIGN BY VICTOR HOERNIG, IDSA

SURFACE

ICONICALLY MODERN.



GINGER®

T. 866.423.0955

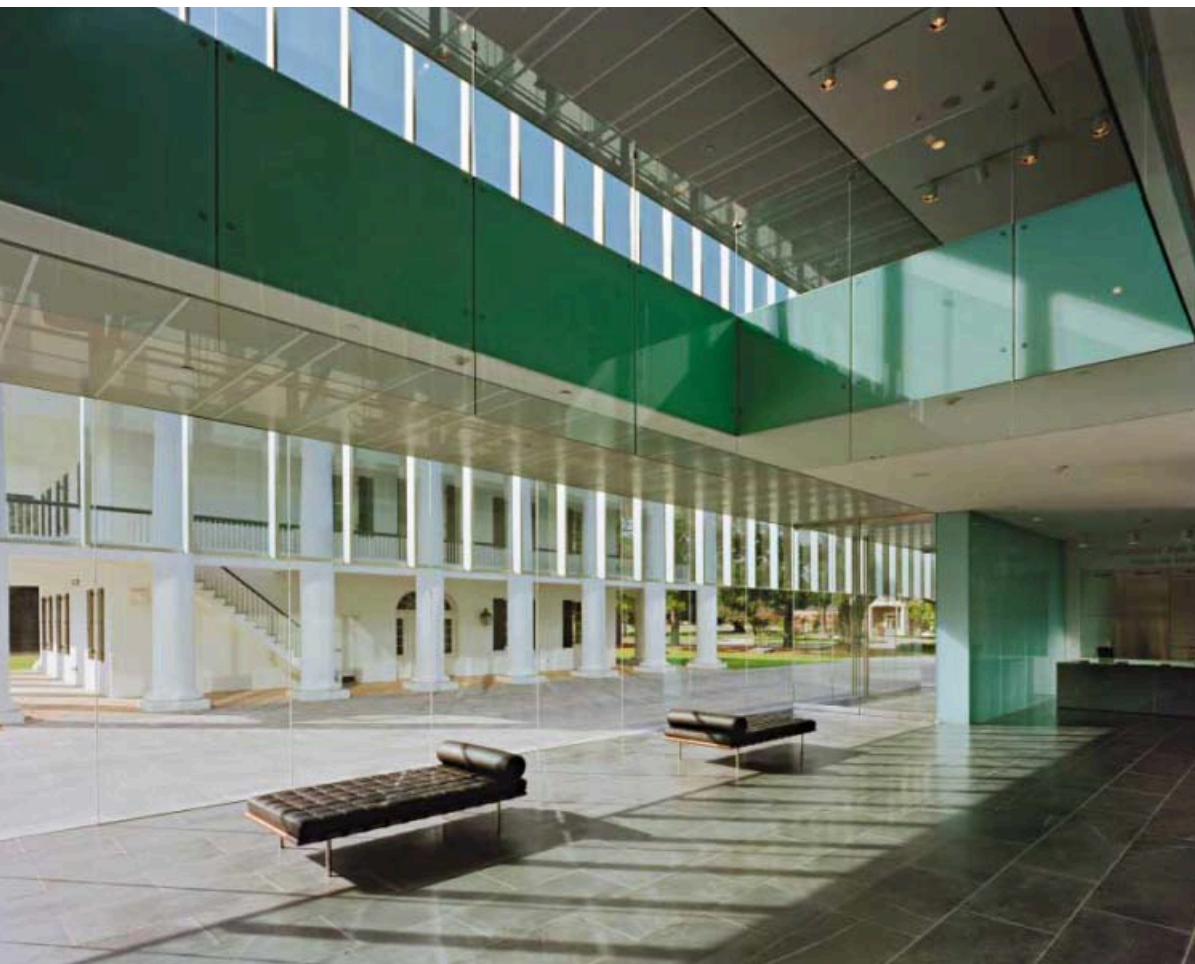
WWW.GINGERCO.COM

F. 803.547.6356

© 2005 GINGER® A Masco Company

CIRCLE 89 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

INTERIORS

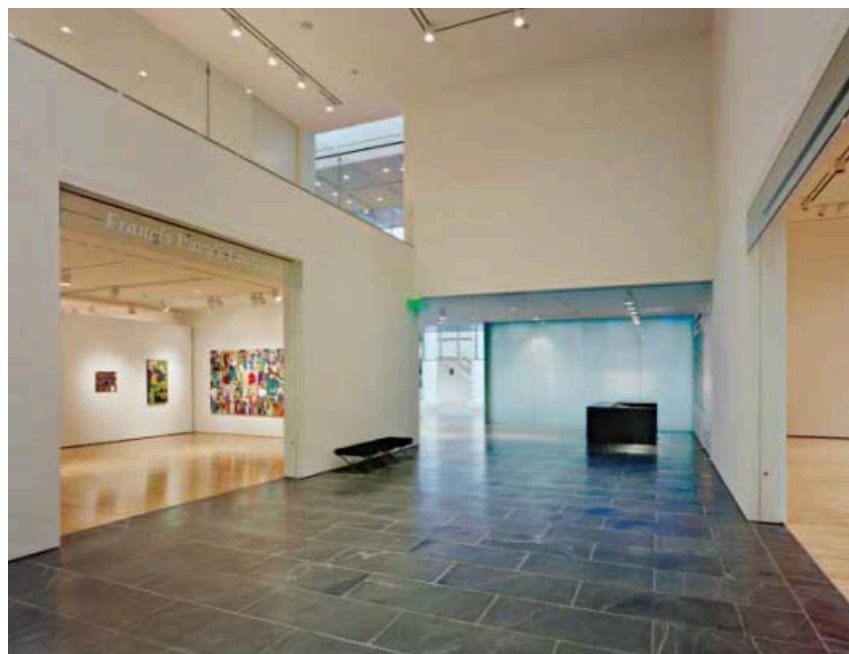


1. Paul and Lulu Hilliard University Art Museum

Lafayette, La.

Architect: *Eskew+Dumez+Ripple*

The new Paul and Lulu Hilliard University Art Museum, a lustrous steel-and-glass structure, is situated adjacent to the University of Louisiana's original museum, a 1960s-era building modeled after antebellum plantation homes. The new museum's glass facade allows views deep into its interior. The connection between indoors and outdoors is reinforced by honed cordosa limestone paving that continues from an outdoor plaza into the ground-floor lobby and up a staircase into an atrium gallery. Glass railings maintain the feeling of openness in the atrium. Gallery spaces are finished minimally with wood floors and painted drywall.



“The gutsy site plan creates a dynamic dialogue between buildings that engages the interiors outward.”

PHOTOGRAPHY: © TIMOTHY HURSELEY



“This is a great place to test eyewear—there’s a lot to look at.”



2. I.a.Eyeworks Showroom

Los Angeles

Architect: Neil M. Denari
Architects

Like most fashions, eyeglass styles come and go. I.a.Eyeworks, a retailer that specializes in cutting-edge eyewear, wanted a showroom that could successfully accommodate ever-changing trends while providing the retailer with a fixed spatial identity. In organizing the space, a 1,500-square-foot rectangle, the architect suspended a continuous, undulating panel from the ceiling, spanning the rectangle’s long axis, to create a strong visual link from the front entrance to the back sales counter. Display shelves line one wall of this axis, while vacuum-formed panels line the opposite wall and provide a flat background for customers’ movement through the store.



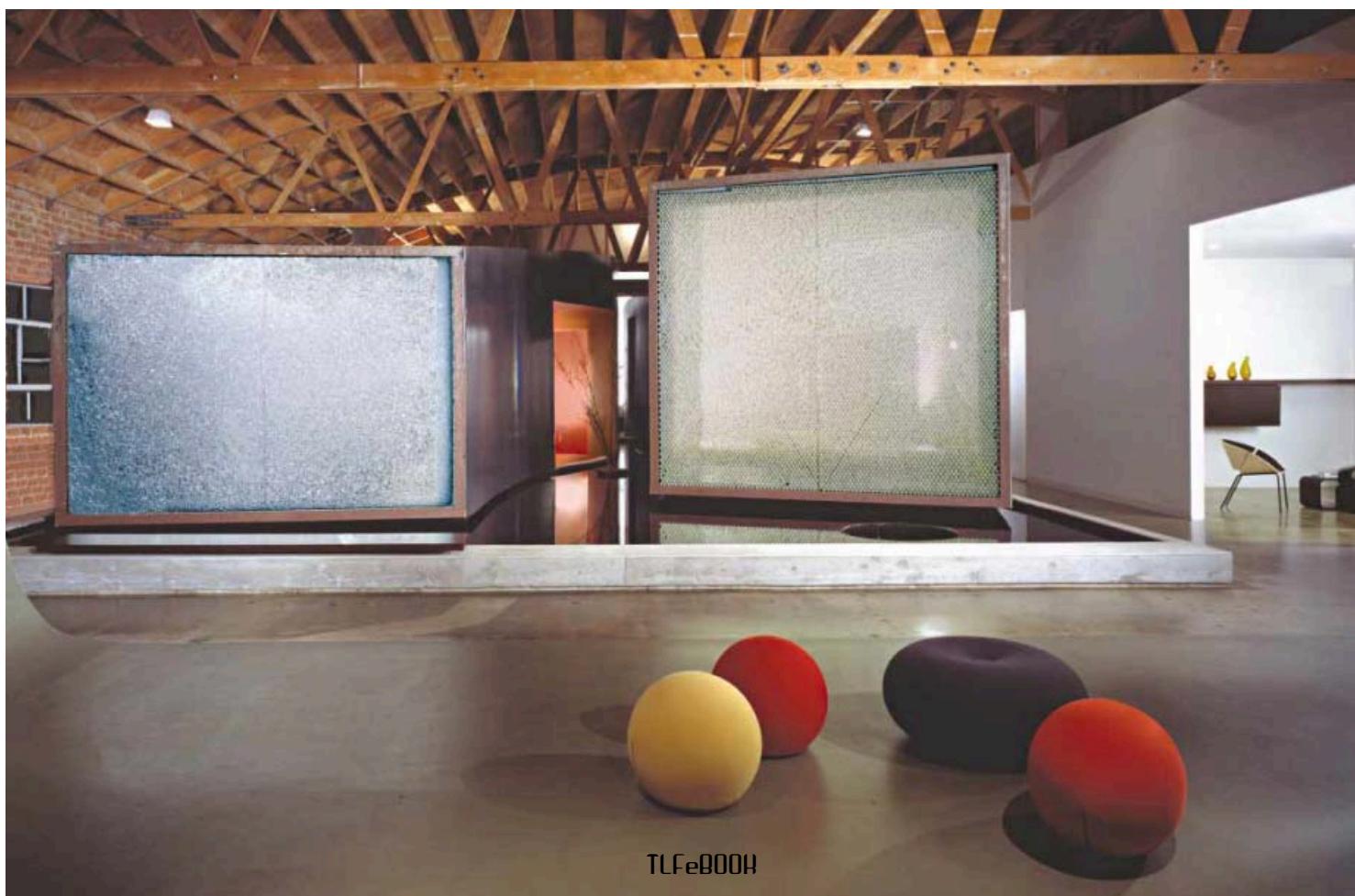
3. Jigsaw

Los Angeles

Architect: Pugh+Scarpa
Architects

Film editing requires small, dark rooms free from distraction; paradoxically, a film-editing company also needs a stimulating work space to foster social interaction among employees and with clients. The architect succeeded in meeting both challenges inside a featureless, 5,000-square-foot warehouse. The small studio spaces are contained within large interior public areas. Incorporating the client's program of offices, library, socializing zones, and music and editing rooms, the design uses interior walls of unique materials to create new and unexpected public and private spaces.

**“The materiality is intriguing and inventive.
This would make a great party space!”**





“The illusion and abstraction of London fog carries the project.”

4. AM International

London

Architect: Elliott + Associates
Architects

For its regional headquarters in London, Ackerman McQueen International, a U.S.-based advertising agency, wanted an office that its clients could easily reconfigure. Inspired by London's famous fog—and the suggestion of creativity and ideas emerging from fog—the architect organized this 1,800-square-foot office around a large conference room that is enclosed by sliding glass walls. The glass affords optical and acoustical privacy, and when viewed from different angles, it possesses both translucent and transparent qualities. Movable furniture allows clients to create their own seating arrangements, while permanent workstations are located at the edges of the floor plate.



PHOTOGRAPHY: © ROBERT SHIMER/HEDRICH BLESSING



Witness Nylon's Metamorphosis

Tussah, part of the Second Nature Collection from Invision. For samples visit www.invisioncarpet.com or call 800.241.4586.

I N V I S I O N

WHERE CREATIVE
MEETS CARPET

CIRCLE 365 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

NeoCon Showroom 10-118

TlFe800H

5. Elie Tahari Fashion Design Office and Warehouse

Millburn, N.J.

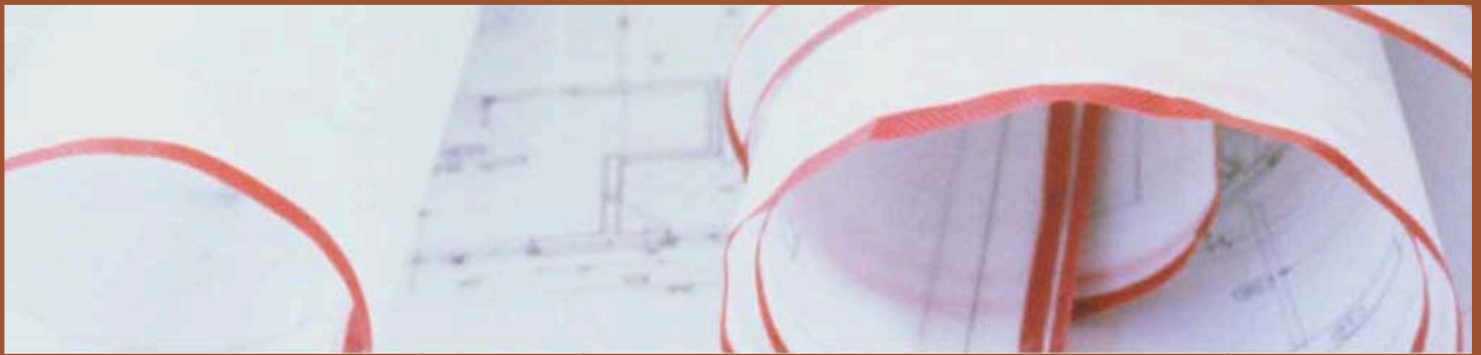
Architect: Voorsanger Architects

The client, a fashion designer, wanted to transform an office building located amid a drab landscape of factories and parking lots. To introduce light and nature into the 20,000-square-foot building, the architect created two interior courtyards—containing river birch and bamboo groves—by cutting through the ceiling and concrete floor slab. Glass walls line these courtyards, which are located on the same axis, allowing people to see into both spaces simultaneously and blurring the distinction between interior and exterior. Around the building's perimeter walls, a suspended white scrim emits filtered light and helps soften views of the dull surroundings.



“This project takes a banal existing building type and, with a few deft moves, layers public space, courtyards, offices, and industrial space.”





CABINETRY THAT ALLOWS YOU TO STAY TRUE TO YOUR ORIGINAL
BLUEPRINT. NOT TO MENTION, TIMELINE AND BUDGET.



Custom cabinetry isn't the only way to meet the demands of your most detailed designs. With six beautiful woods, 32 fine finishes and thousands of storage and style options, KraftMaid's built-to-order cabinetry not only fits your vision, but also fits your budget. So you get the design flexibility and superior construction associated with custom cabinetry, without the higher prices. And with the help of our extensive dealer network and some of the shortest lead times in the industry, you'll keep on schedule and under budget, just as you planned.

*To see how KraftMaid can fit nicely
into your plans, call 1-800-919-1986
or visit www.kraftmaid.com.*

Made just for you.

KraftMaid
Cabinetry

CIRCLE 90 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

TLCe800H



“The interwoven antique silk ribbons bring a museum quality to the materials.”



6. Chanel, rue Cambon

Paris

Architect: *Peter Marino + Associates Architects; Vigneron Architects (associate architect)*

An expansion and redesign of Coco Chanel's original boutique, the store now encompasses 8,000 square feet in three adjoining buildings. The old space is linked to the new by a staircase, at the top of which is a floor-to-ceiling video wall that showcases Chanel's ready-to-wear collection. The architect weaved the fashion designer's aesthetic into finishes throughout the store. In homage to Chanel's iconic tweed pattern, gold threads highlight carbon-fiber wall panels, while poured-resin panels are inset with diamond dust. Antique silk ribbons, the only remaining original materials from the Coco Chanel archive, are woven into room dividers.



7. East End Temple

New York City

Architect: BKSK Architects

Originally designed by Richard Morris Hunt, the building was erected as a private residence in 1883. In redeveloping it for the East End Temple, BKSK Architects retained an elegant library at the building's street side but, in the rear, carved out a mul-

tistery volume for the religious sanctuary. The space is cubic and follows proportions described in the Book of Exodus. Above the Torah ark, the ceiling was pulled apart and inset with a skylight, flooding the room with daylight and symbolizing divine presence. Bronze panels engraved with prayers line the walls, recalling the prayers that Jews insert into Jerusalem's Western Wall.



“It’s like a piece of jewelry in its attention to detail and custom-designed elements.”



PHOTOGRAPHY: © JONATHAN WALLEN



Why is this house and its beautiful windows upside-down? And where's the headline on this ad? By the way, do you know how to make a "Mary Got Hit by a Chicken Truck?" Well, you will. Because we're dropping the recipe right here in the middle of the copy.

MARY GOT HIT BY A CHICKEN TRUCK

*10 oz. tomato juice
1 oz. pepper vodka (optional)
1 tsp. horseradish
dash of hot sauce
pinch of salt
fresh ground pepper*

There. That's what we call freedom. Upside-down windows. No headline. Mary Got Hit by a Chicken Truck.

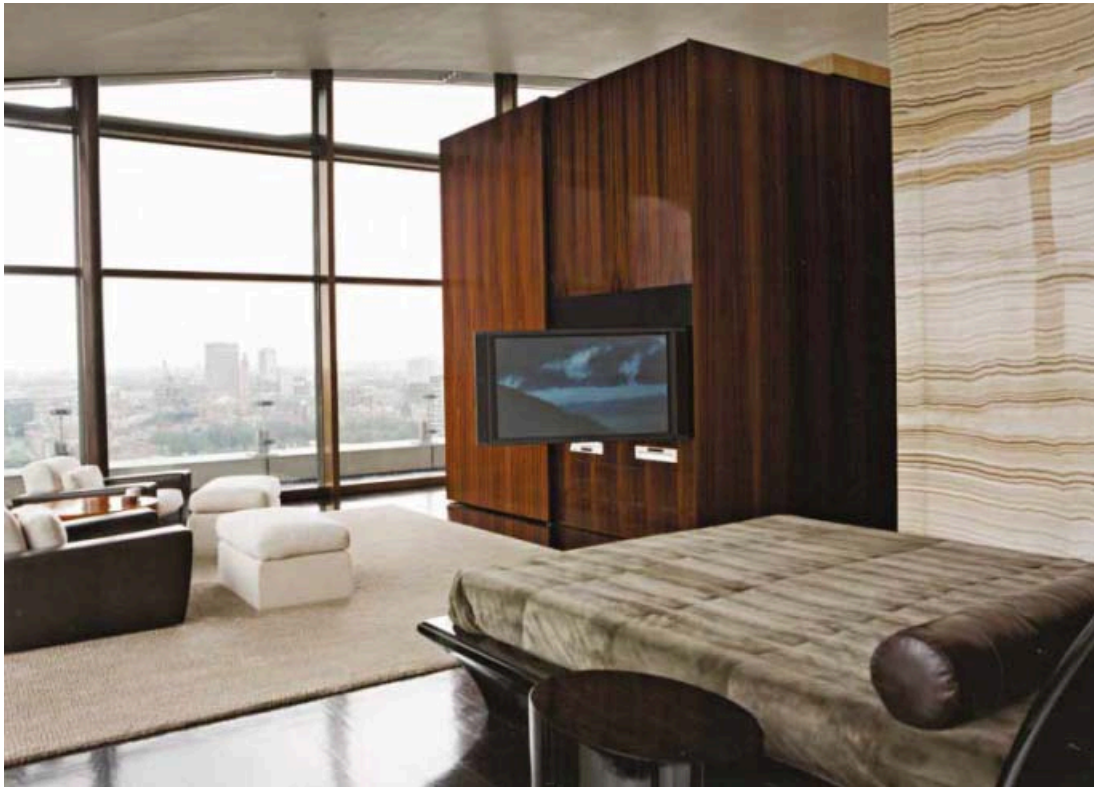
Freedom. It's our mantra. And that's why we offer fifty standard colors, nine wood species, and twelve interior finishes. Not to mention our new VisionGuard™ jobsite protective film. You like the freedom? We think you will.



EagleWindow.com 1-888-74-EAGLE

CIRCLE 91 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

TlFe800H



8. Pavilion in the Sky

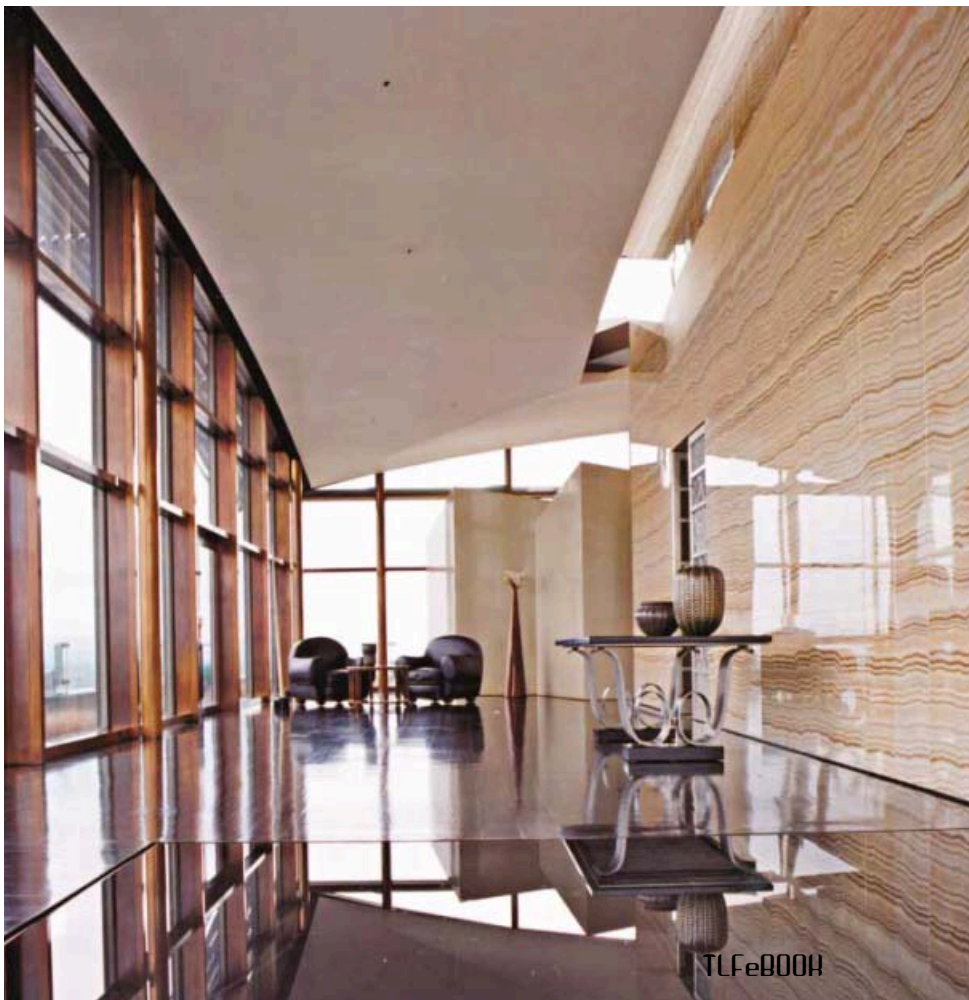
London

Architect: *Peter Marino + Associates Architects*

The architect designed this 4,800-square-foot residential penthouse for a collector of Modern art. Conceived of as a “pavilion in the sky,” the glass-enclosed box represents an exploration of geometry and precious materials. The space is centered on a shimmering cube of onyx that surrounds the building’s mechanical core. From the core, a stone entry hall progresses through doors, paneled with Lalique crystal, and emerges into an interior landscape, filled with sculptural objects that mark private areas of the residence.

PHOTOGRAPHY: © J.P. MASCIET

“It’s sensationally over-the-top and fantastic—wow!”





pure performance[®]



Environmentally Gentle

- Green Seal Class A certification
- Zero VOCs
- Ideal for "green building" projects
- Minimal odor during painting and drying
- Paint today, occupy tonight

Superior Performance

- Easy application
- Durable finish
- High hiding
- Excellent adhesion
- Bright, clean white
- Available in over 1,800 colors from the Voice of Color[®] design system
- Mold and mildew resistant on the paint film

ENVIRONMENTALLY GENTLE PAINT THAT
DELIVERS **SUPERIOR PERFORMANCE**

For more information about Pittsburgh[®] Paints,
visit www.pittsburghpaints.com or call 1-800-PPG-SPEC

CIRCLE 92 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/



TLCe800H

9. James Stewart Centre for Mathematics

Hamilton, Ontario

Architect: Kuwabara Payne

McKenna Blumberg Architects

[RECORD, September 2004, page 148]

Opened in 1929 to house McMaster University's science department, this neo-Gothic building was converted into a student center in the 1960s. More recently, an alumnus donated funds to transform the building once again—this time into a mathematics center. The architect inserted an abstract and Modern interior into the building's Gothic envelope. Private offices are located around the perimeter walls, while oversize corridors contain blackboards, tables, and seating to encourage socializing. A new, four-story atrium, topped by skylights, draws light down through the building's heart.



"This is a bold insertion into the structural frame of a Collegiate Gothic building."





Only one fabric
GIVES HOMEOWNERS
the greatest comfort with
YOUR AMENITIES PACKAGE.

No one can claim greater durability, beauty and reliability than Sunbrella® brand fabrics. Over 40 years ago, we pioneered beautiful performance fabric, leading the way in making outdoor living the incredible trend it is today. In addition, we offer the best limited warranty in the business, which will make homeowners especially comfortable in selecting Sunbrella. So find out how you can create a unique complement to your outdoor room designs. Ask your local awning fabricator about Sunbrella or call Glen Raven Custom Fabrics Customer Service at 336-221-2211.

SUNBRELLA® is a registered trademark of Glen Raven, Inc.
The Montreux Furniture Collection courtesy of Tropitone, Inc. Installation by Custom Canvas Structures, Tampa, FL.



www.sunbrella.com

**CIRCLE 93 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/**

FOR MORE

10. Boys Club of Sioux City

Sioux City, Iowa

Architect: Randy Brown

Architects [RECORD, December 1997, page 60]

The Boys Club wanted to freshen the look of its building, a former armory that it has occupied since the 1950s; boys who use the club

for recreation wanted “cool stuff.” Most interior walls were left unchanged, but floors and ceilings were stripped to reveal original wood and plaster finishes. The architect added a new palette of tile, plywood, and chain link. Structural elements were revealed and treated sculpturally to create “jungle gyms for the mind and body.”



“It’s a very tactile building; it says, ‘touch, climb, swing, fall.’ ”

“The new work has equal integrity to the original building—it’s extraordinarily refined.”



11. Hyde Park Bank

Chicago

Architect: Florian Architects

[RECORD, March 2005, page 136]

Over the years since the building opened in 1929, Hyde Park Bank’s main hall was partitioned into smaller spaces, defined by dark, banal materials that obscured its rich original finishes. The restoration architect removed this clutter and returned the banking hall to its former grandeur. In defining new volumes, it inserted sleek contemporary fixtures forged from translucent and light materials that complement the original Classical aesthetic. A new teller counter, for instance, is composed of travertine and glass.

Sto Guard®

Introducing the Spray-On Building Wrap.



Dual Function: Waterproof and continuous air barrier assembly but NOT a vapor barrier, it is breathable

Superior: Waterproofing NOT "weatherization," water testing measured in days, NOT hours like most wraps

Ask about our 5 year warranty.

Seamless: Assembly covers full wall, joints and penetrations for use beneath exterior wall claddings including brick, wood, vinyl, cement siding, EIFS & stucco

Easy Application: It is water-based, so conventional spray equipment or paint rollers can be used

Pros in the know use Sto.

Call us with the specs on your next project at 888-410-0956 or go to www.stocorp.com/stoguard for testimonials or to locate the distributor nearest you.



TLCe800H

sto

www.stocorp.com

CIRCLE 94 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

URBAN DESIGN



“Provides open space rather than barricading public space.”

1. Battery Park City Streetscapes

New York City

Architect: *Rogers Marvel Architects*

A proliferation of Jersey barriers installed after September 11, 2001, continue to make parts of Battery

Park City, to the west of the World Trade Center site, feel like a war zone. This plan will reclaim pedestrian areas by replacing the barriers with concealed traps that will prevent explosive-laden vehicles from getting too close to buildings.



2. Cady's Alley

Washington, D.C.

Architects: *Sorg and Associates; Frank Schlesinger Associates; McInturff Architects; Martinez & Johnson Architecture; Shalom Baranes Associates Architects; The Fitch Studio (landscape)*

In the heart of Georgetown, 18 small warehouses sat vacant along Cady's Alley, which runs parallel to the main commercial corridor of M Street. The architects redeveloped these buildings for retail and residential use. They also inserted two midblock connections to M Street and reinvigorated the alley for pedestrians.

“A sensitive intervention which breathes life into a historically significant urban fabric.”



3. City of Santa Cruz Accessory Dwelling Unit Program

Santa Cruz, Calif.

Architect: *RACESTUDIOS*

Facing a land shortage and ongoing growth pressure, Santa Cruz, California, formulated the ultimate plan for urban infill. It provides homeowners with blueprints for prototype homes that can be constructed in backyards or above existing garages—accessory dwelling units that increase neighborhood density in an almost invisible way.



“An innovative way to increase density while maintaining the scale of the neighborhood.”

4. Riparian Meadows, Mounds and Rooms: Urban Greenway for Warren, Arkansas

Warren, Ark.

Architect: *University of Arkansas Community Design Center*

This project combines ecological restoration with the creation of

recreation spaces for a depressed, rural community of 6,500 people. By removing man-made barriers along the Town Branch Creek, engineers will restore the river's natural flood plain, allowing storm water to dissipate safely and creating open space for waterside parks.



“Combines community assets with the natural environment.”



5. Anacostia Waterfront Initiative Framework Plan

Washington, D.C.

Architect: *Chan Krieger & Associates*

Left off tourist maps and ignored even by locals, the Anacostia is the District of Columbia's forgotten

river. The Anacostia Waterfront Initiative Framework Plan seeks to change this. Goals include cleaning up industrial pollution, increasing access to 20 miles of waterfront, and encouraging residential and commercial development in economically depressed neighborhoods nearby.



“There's great promise of revitalizing the Anacostia neighborhood.”



Titanic Toughness.

Just one of the many strengths of Alcoa Architectural Products' Reynobond® Titanium.

Want the natural durability and aesthetics of titanium, with all the design flexibility of a composite? Introducing Reynobond Titanium—the newest addition to our innovative line of Natural Metal Composites. Reynobond Titanium is the ideal solution for architectural projects that must demonstrate a sense of strength. Its natural, non-directional finish maintains itself over time, and can be post-production treated to achieve champagne hues that shift with light conditions. With so many benefits, it's a truly beautiful design choice.

Alcoa Architectural Products | build for life®

For more information, contact Alcoa Architectural Products (800) 841-7774. Or visit us online at alcoaarchitecturalproducts.com.

CIRCLE 95 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

6. Chongming Island Master Plan*Shanghai, China***Architect:** Skidmore, Owings & Merrill

Chongming Island, to the north of Shanghai, China, is today largely rural—but it feels development pressure. This master plan will preserve 70 percent of the island for farming and a wildlife refuge. It also ensures that eight new cities and 40 villages will contain walkable neighborhoods accessible to public transportation.



“There is great clarity and integration between the ecological system and the development framework.”

**7. North Allston Strategic Framework for Planning***Boston***Architect:** Goody, Clancy & Associates

Alarmed by Harvard University's land acquisitions in the suburb of North Allston, Massachusetts,

Boston planners and residents decided to partner with the school to create a master plan that will minimize town and gown conflicts. It enables Harvard to grow, while preserving affordable housing and providing the community with new pedestrian-scaled commercial thoroughfares.

“There was a determination by all parties over time to reach a comprehensive plan.”

**8. Jackson Meadow, Marine on St. Croix***St. Croix, Minn.***Architect:** Salmela Architect and Coen + Partners

Marine on St. Croix, the oldest settlement in Minnesota, resisted development pressure until well

into the 1990s. The beauty of Jackson Meadow, aside from its prairie setting, is that it incorporates the region's vernacular architecture: Its smaller-scale homes and clusters of outbuildings, such as freestanding garages, look as though they grew up along with the village.



“Sensitive and respectful connections to the landscape and regional vernacular architecture.”

you're invited

EFCO Corporation
*takes great pleasure in inviting you
to be our dinner guest
Thursday, May 19, 2005
Reception 6:00 p.m.
Followed by dinner*



WINDOWS
CURTAIN WALLS
ENTRANCES
STOREFRONTS

Please RSVP by May 12, 2005 to:
EFCO Corporation
800.221.4169 X 2654
aiarsvp@efcocorp.com

Details will be available at the EFCO Corporation booth (#3038) at the AIA 2005 National Convention and Design Exhibition - Mandalay Bay Convention Center, Las Vegas, Nevada.

Where windows are just the beginning.





“Bold buildings and bold spaces in tension with each other.”

9. Northeastern University West Campus Master Plan

Boston

Architect: William Rawn Associates, Architects

As Northwestern University transforms itself from a com-

muter school to a residential one, it is developing more than 1.2 million square feet of new residence and academic halls. Its master plan ensures that these buildings will contribute to, not withdraw from, the school's urban setting.



10. West Harlem Waterfront Park

New York City

Architect: W Architecture & Landscape Architecture

Combining neighborhood rejuvenation with economic development, this project trans-

forms a former parking lot and rail yard into a waterfront park. Additional goals include providing West Harlem with more transportation alternatives, including ferry service, and attracting businesses to the site to create local jobs for neighborhood residents.

“Gets Harlem to its river in a simple, direct, and elegant way.”



11. Ramsey Town Center

Ramsey, Minn.

Architect: Elness Swenson Graham Architects in collaboration with Close Landscape Architecture

Located in the exurban Twin Cities, Ramsey Town Center is a

mixed-use development consisting of 2,500 housing units, 1 million square feet of retail and office space, and civic buildings. Its master plan ensures that development will center around a transit hub, with a network of greenways linking neighborhoods on the 320-acre site.

“A very strong city-center plan.”



25 YEAR AWARD



Louis I. Kahn's gentle masterpiece

Some 31 years after his death, Louis I. Kahn still holds our fascination. The recent documentary film about him, *My Architect*, was a great success, and his work continues to net awards. The Yale Center for British Art, Kahn's last major commission, begun in 1973 and finished by the architects Pellecchia and Meyers in 1977, is this year's AIA 25 Year Award winner. It is the fifth Kahn building recognized with the honor. This might appear excessive to some observers, but as one AIA juror remarked, "If only there were more Kahn buildings to award."

Kahn's works seem destined for an award slated for buildings that

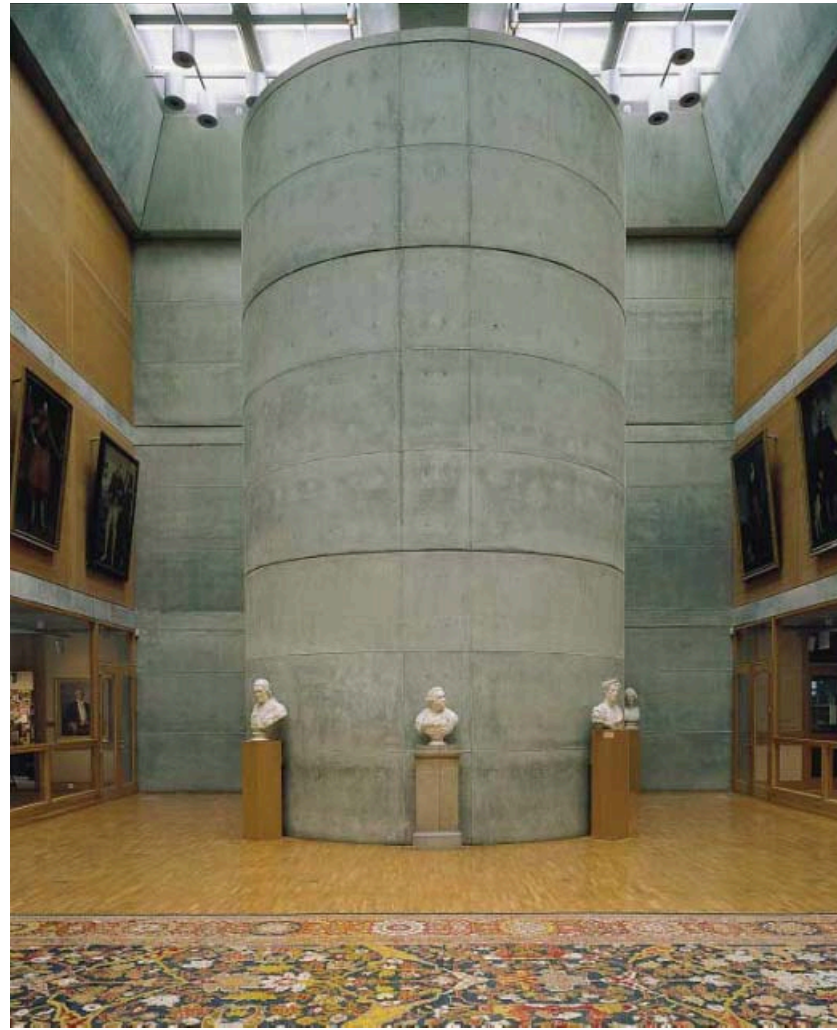
stand the test of time. Most of his designs were inspired by the bold scale and timeless geometry of ancient monuments, such as the Egyptian pyramids. Although the Center for British Art is a more intimate creation—and its exterior cladding of matte steel and glass deviates from Kahn's signature use of earthy materials such as brick and concrete—his aesthetic is unmistakable in the interior finishes, such as the glowing, honey-colored oak wall panels and travertine floors.

What truly defines the Center for British Art—a characteristic it shares with all of Kahn's buildings—

is the way in which natural light fills virtually every space: flooding down from skylights, suffusing two interior courtyards, and filtering through the glass facade. Amy Meyers, the center's director, says that the layout of its circulation spaces and galleries is also symbolic. "The design is about the process of enlightenment; it lets you read the building in relation to the art," she observes. "It's a rational building. Nothing is mysterious." This might seem as an ironic statement, given the secrecy surrounding Kahn's personal life, but the enduring genius of his buildings is that they are nothing if not direct. *James Murdock*



PHOTOGRAPHY: © RICHARD CASPOLE, EXCEPT MICHAEL MARSLAND
(THIS PAGE, BOTTOM CENTER AND TOP LEFT)



“The materiality and the language of the wood framed in stainless steel, concrete, and natural linens is still a delight for the eyes.”



American Institute of Architects

Winners and Jurors 2005

WINNERS

Architecture (page 116)

Contemporaine at 516 North Wells: Perkins+Will; **Agosta House:** Patkau Architects; **Conservatory of Flowers:** Architectural Resources Group in collaboration with Tennebaum-Manheim Engineers; **Emerson Sauna:** Salmela Architect; **Somis Hay Barn at the Lucky Dog Ranch:** SPF:a; **Hill Auditorium:** Quinn Evans/Architects (restoration architect); **Albert Kahn Associates** (architect of record); **Seattle Central Library:** OMA/LMN—A Joint Venture; **Gannett/USA Today Corporate Headquarters:** Kohn Pedersen Fox Associates; **Jubilee Church:** Richard Meier & Partners Architects; **Shaw House:** Patkau Architects; **Mill City Museum:** Meyer Scherer & Rockcastle; **Holy Rosary Catholic Church Complex:** Trahan Architects; **Mountain Tree House:** Mack Scogin Merrill Elam Architects

Interiors (page 130)

Paul and Lulu Hilliard University Art Museum: Eskew+Dumez+Ripple; **I.a.Eyeworks Showroom:** Neil M. Denari Architects; **Jigsaw:** Pugh+Scarpa Architects; **AM International:** Elliott + Associates Architects; **Elie Tahari Fashion Design Office and Warehouse:** Voorsanger Architects; **Chanel, rue Cambon:** Peter Marino + Associates Architects; **Vigneron Architects** (associate architect); **East End Temple:** BSKS Architects; **Pavilion in the Sky:** Peter Marino + Associates Architects; **James Stewart Centre for Mathematics:** Kuwabara Payne McKenna Blumberg Architects; **Boys Club of Sioux City:** Randy Brown Architects; **Hyde Park Bank:** Florian Architects

Urban Design (page 146)

Battery Park City Streetscapes: Rogers Marvel Architects; **Cady's Alley:** Sorg and Associates; **Frank Schlesinger Associates;** McInturff Architects; **Martinez & Johnson Architecture;** Shalom Baranes Associates Architects; **The Fitch Studio** (landscape); **City of Santa Cruz Accessory Dwelling Unit Program:** RACESTUDIOS; **Riparian Meadows, Mounds and Rooms:** Urban Greenway for Warren, Arkansas; **University of Arkansas Community Design Center;** Anacostia Waterfront Initiative Framework Plan: Chan Krieger & Associates; **Chongming Island Master Plan:** Skidmore, Owings & Merrill; **North Allston Strategic Framework for Planning:** Goody, Clancy & Associates; **Jackson Meadow, Marine on St. Croix:** Salmela Architect and Coen + Partners; **Northeastern University West Campus Master Plan:** William Rawn Associates, Architects; **West Harlem Waterfront Park:** W Architecture & Landscape Architecture; **Ramsey Town Center:** Elness Swenson Graham Architects in collaboration with Close Landscape Architecture

25 Year Award (page 152)

The Yale Center for British Art: Louis I. Kahn

Firm of the Year (page 156)

Murphy/Jahn: Helmut Jahn, John Durbrow

Gold Medal (page 162)

Santiago Calatrava, FAIA

JURORS



Architecture

Jury Chair

Thomas W. Ventulett III, FAIA

Since opening in 1968, Thompson, Ventulett, Stainback & Associates has been honored with more than 200 design awards, including the AIA Architecture Firm Award in 2002. A founding principal, Tom Ventulett now serves as chairman emeritus of its board of directors and as its design quality assurance director. He is a frequent lecturer at universities and professional organizations nationwide.

Frank Harmon, FAIA, Raleigh, N.C.; **Amira Joelson, Assoc. AIA, New York City;** **Brenda A. Levin, FAIA, Los Angeles;** **Thomas Phifer, AIA, New York City;** **Joseph M. Valerio, FAIA, Chicago;** **Susan Lipka, Houston;** **Danielle S. Wilkins, Springfield, Va.;** **Vivian Loftness, FAIA, Pittsburgh**



Interior Architecture

Jury Chair

Mark McInturff, FAIA

McInturff Architects was the recipient of several AIA Honor Awards, including one for urban design this year. A principal of the Bethesda-based firm, Mark McInturff has taught at the University of Maryland School of Architecture since 1980, where he was appointed Kea Professor for spring 2003. Since 1995, he has been a visiting critic at the Catholic University of America's School of Architecture and Planning.

Judith DiMaio, AIA, Old Westbury, N.Y.; **Karen I. Fiene, AIA, Berkeley;** **Douglas A. Garofalo, FAIA, Chicago;** **Nancy Tessman, Salt Lake City**



Regional and Urban Design

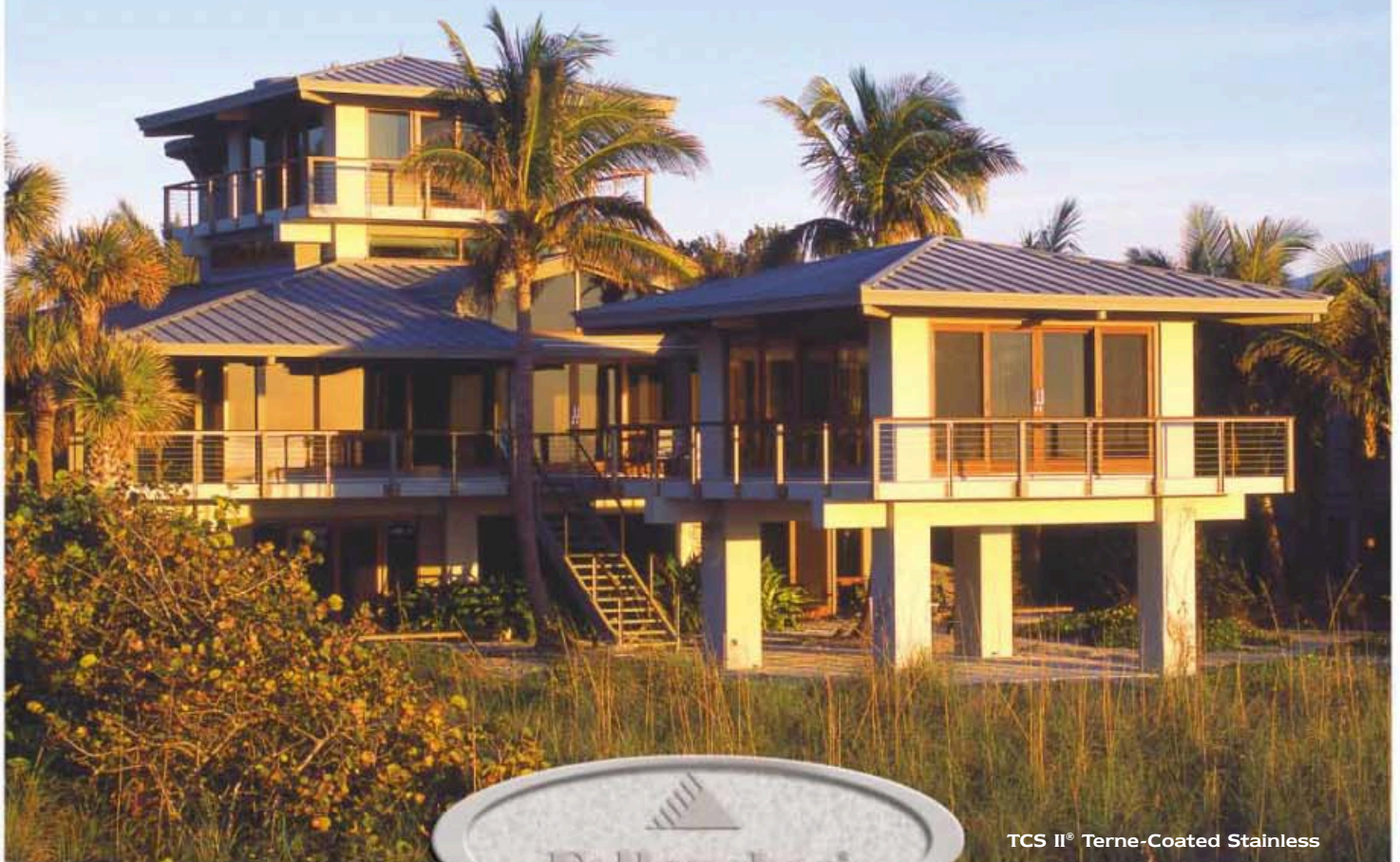
Jury Chair

Michael E. Willis, FAIA

Michael Willis is president and founding principal of Michael Willis Architects, an architecture, urban design, and interiors firm with offices in San Francisco and Oakland, in California, and Portland, Oregon. He remains involved in AIA San Francisco, serving as president in 1995, and is former chair of the National Organization of Minority Architects of Northern California.

John C. Guenther, AIA, St. Louis; **Stephen L. Quick, AIA, Pittsburgh;** **Karen Van Lengen, AIA, Charlottesville, Va.**

The best roof money can buy.™



TCS II® Terne-Coated Stainless

Boca Grande, the home above, and its Follansbee roof were directly in the path of Hurricane Charley. The storm had given way to a week of clear blue Florida skies, so we thought it was about time to call our customer. "Everybody okay?" "Yes, we were up North at the time. But a couple of our neighbors got hit pretty hard." "How's the roof?" "Perfect. Like the day it was installed. No damage, no leaks." So we talked about golf and fishing instead.

Follansbee – for those who demand the very best.

Call or visit Follansbee online today to learn more.

800.624.6906 follansbeeroofing.com

FIRM OF THE YEAR AWARD



By Cheryl Kent

According to Chicago folklore, Mayor Richard J. Daley (father of the current mayor) called architect Charles F. Murphy in 1967 while McCormick Place was still burning. “Charlie” the mayor said, “start drawing.” Murphy’s firm—then known as C.F. Murphy and now Murphy/Jahn (M/J)—did get the commission to rebuild the convention center. Gene Summers was hired to design the project, and he brought along his 27-year-old assistant, Helmut Jahn.

Murphy/Jahn was named Firm of the Year by the AIA for 2005. In two years, the office will celebrate its 70th anniversary. Since 1982, it has been under the sole proprietorship and determined leadership of Helmut Jahn.

The firm’s roots in Chicago are deep (Charles Murphy worked in Daniel Burnham’s office during the last year of his life), and it has contributed significant work to Chicago, providing it with some of the tough, muscular buildings for which the city is justly famous. To name two, there is McCormick Place (1970), with its massive, 19-acre roof and unique support structure; and the 1965 Richard J. Daley Center, with its 87-foot-long bays. The office continued to be the mayor’s favorite and win plum jobs from the city, among them O’Hare Airport. In those days, M/J gave Skidmore, Owings & Merrill’s Chicago office a run for its money even as it constructed the 100-story John Hancock Tower.

As Murphy/Jahn, the office’s reach is global: In addition to the U.S., it designs projects in Europe, Asia, and Africa. The firm’s work is as technically audacious as ever—although the emphasis is no longer on steel and breathtaking spans—and the architectural expression has evolved, becoming more refined in the past decade, characterized by sculptural massing and delicate glass skins. Perhaps only Jean Nouvel matches M/J’s skillful and effective use of glass.

Since 2000, beginning with the Sony Center, M/J has been collaborating regularly with engineer Werner Sobek and climate designer Mathias Schuler. Jahn and Sobek have coined

Cheryl Kent’s book on Santiago Calatrava’s Milwaukee Art Museum is being published in June by Rizzoli. Her book on David Hovey’s work was published in 2004.

AIA honors the futuristic vision and high energy of **Murphy/Jahn**



PHOTOGRAPHY: COURTESY MURPHY/JAHN (TOP LEFT); © ROLAND HALBE (1, 2)



1. Bayer AG Konzernzentrale, Leverkusen, Germany: exterior view (left); circulation corridor (above).



2. Kaufhof Galeria, Chemnitz, Germany: transparent facade of showroom (left); bus-station loggia (above).

a new term, *Archi-Neering*, to express the equality of their collaborative working relationship, and they released a book on the subject. “In the office,” Jahn says, “no one can tell me I had a bad idea. But Werner can tell me I had a bad idea.”

The collaboration has given recent work a seamless quality. With higher energy-performance standards in Europe, M/J has designed large-scale, innovative buildings using natural ventilation as the primary system. While mechanical backups assist the in extreme conditions, the elimination of conventional HVAC supports has simplified design.

Murphy/Jahn followed a logical path to its present work. During the 1970s and 1980s, the firm sought to expand architecture through technology and new materials. Its speculative office buildings of that period suffered the gaudy veneers of thin polished stone and coy historical references that everyone’s did. There are the flamboyant projects like the Thompson Center in Chicago that won Jahn the name “Flash Gordon.” (Defiantly, Jahn embraced the name, adopting it for his racing sailboat.) But in smaller commissions, such as the Rust-Oleum Headquarters (1978) and the Xerox Center (1980), Murphy/Jahn produced modest gems demonstrating an honest search for a path from doctrinaire Modernism to a meaningful contemporary architecture. These projects show the firm was never in danger of dead-ending on historicism nor floundering in abstract literary philosophy.

Starting his career among Chicago’s titans, Jahn learned to think big. In an interview several years ago, he said pointedly, “I’ve designed one house in my life,” and that was a gift for Murphy, who was retiring. Jahn—a man of formidable intelligence and drive—looks pragmatically at every job to push the solution past convention. In America, he celebrates the efficiency and economy with which buildings are constructed, as in the IIT Student Housing, Chicago (2003); in Europe, he revels in the freedom to experiment and the higher standards for energy saving, as in the Post Tower, Bonn, Germany (2003).

Murphy/Jahn has been an architecture boot camp for young architects, where they are worked hard and where some discover their own grit and design talent. The list of distinguished architects who worked at M/J attest to the firm’s eye for talent and an ability to cultivate—albeit with very tough love—the gifted. The list of alumni includes Tom Beeby, Jacques Brownson, John Burgee, David Hovey, and Ron Krueck, among others.

The firm has been controversial, and receiving the AIA Firm of the Year Award does not acknowledge a new willingness to compromise on Murphy/Jahn’s part. As evidence, one need only look to the Sony Center, Berlin (2000), the central court of which recalls the Thompson Building in Chicago—the most controversial building Jahn ever designed. Instead of repudiating the work that caused the firm its biggest headache, Murphy/Jahn has instead returned to its theme. This time, the expression is refined while retaining the original’s exuberance. Sony does not feel over-the-top, as the Thompson Center does. It is this control—call it maturity—combined with an enduring appetite for experimentation that characterizes the firm’s current work. ■



3. Cologne/Bonn Airport, Cologne/Bonn, Germany:
concourse (top); glass roof covering train
station (middle); interior concourse (bottom).

a new term, *Archi-Neering*, to express the equality of their collaborative working relationship, and they released a book on the subject. “In the office,” Jahn says, “no one can tell me I had a bad idea. But Werner can tell me I had a bad idea.”

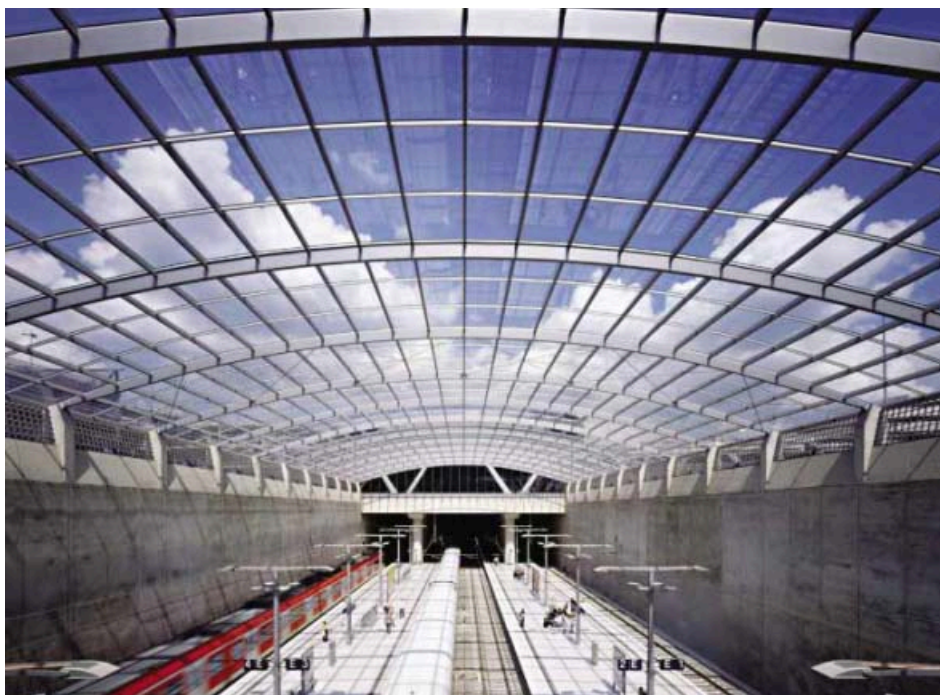
The collaboration has given recent work a seamless quality. With higher energy-performance standards in Europe, M/J has designed large-scale, innovative buildings using natural ventilation as the primary system. While mechanical backups assist in extreme conditions, the elimination of conventional HVAC supports has simplified design.

Murphy/Jahn followed a logical path to its present work. During the 1970s and 1980s, the firm sought to expand architecture through technology and new materials. Its speculative office buildings of that period suffered the gaudy veneers of thin polished stone and coy historical references that everyone’s did. There are the flamboyant projects like the Thompson Center in Chicago that won Jahn the name “Flash Gordon.” (Defiantly, Jahn embraced the name, adopting it for his racing sailboat.) But in smaller commissions, such as the Rust-Oleum Headquarters (1978) and the Xerox Center (1980), Murphy/Jahn produced modest gems demonstrating an honest search for a path from doctrinaire Modernism to a meaningful contemporary architecture. These projects show the firm was never in danger of dead-ending on historicism nor floundering in abstract literary philosophy.

Starting his career among Chicago’s titans, Jahn learned to think big. In an interview several years ago, he said pointedly, “I’ve designed one house in my life,” and that was a gift for Murphy, who was retiring. Jahn—a man of formidable intelligence and drive—looks pragmatically at every job to push the solution past convention. In America, he celebrates the efficiency and economy with which buildings are constructed, as in the IIT Student Housing, Chicago (2003); in Europe, he revels in the freedom to experiment and the higher standards for energy saving, as in the Post Tower, Bonn, Germany (2003).

Murphy/Jahn has been an architecture boot camp for young architects, where they are worked hard and where some discover their own grit and design talent. The list of distinguished architects who worked at M/J attest to the firm’s eye for talent and an ability to cultivate—albeit with very tough love—the gifted. The list of alumni includes Tom Beeby, Jacques Brownson, John Burgee, David Hovey, and Ron Krueck, among others.

The firm has been controversial, and receiving the AIA Firm of the Year Award does not acknowledge a new willingness to compromise on Murphy/Jahn’s part. As evidence, one need only look to the Sony Center, Berlin (2000), the central court of which recalls the Thompson Building in Chicago—the most controversial building Jahn ever designed. Instead of repudiating the work that caused the firm its biggest headache, Murphy/Jahn has instead returned to its theme. This time, the expression is refined while retaining the original’s exuberance. Sony does not feel over-the-top, as the Thompson Center does. It is this control—call it maturity—combined with an enduring appetite for experimentation that characterizes the firm’s current work. ■



3. Cologne/Bonn Airport, Cologne/Bonn, Germany: concourse (top); glass roof covering train station (middle); interior concourse (bottom).



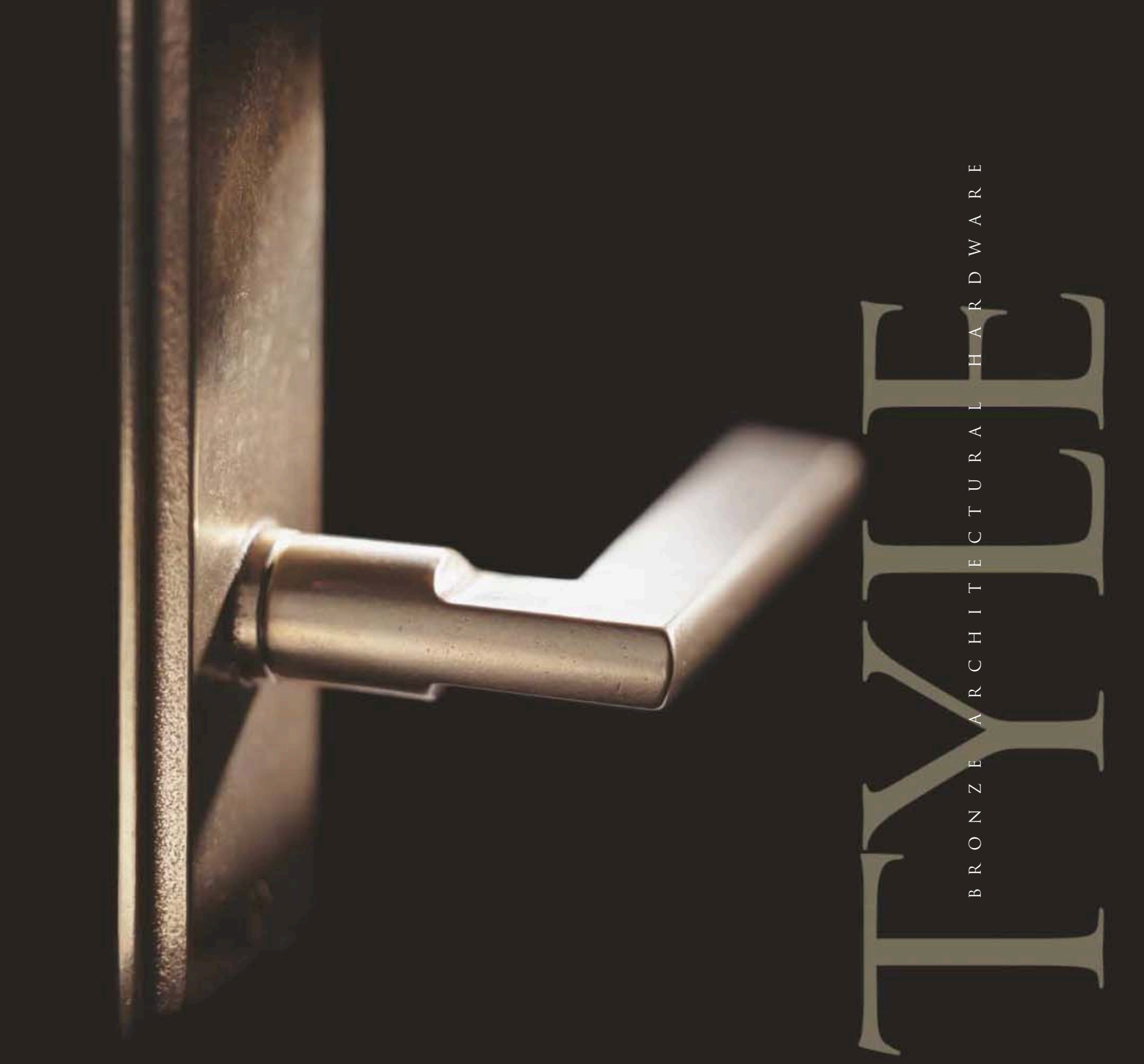
The Houston Texans' stadium
uses **LUXAR® Anti-Reflective-Glass**
for the corporate lounges.

AIA Booth #3675

IGT Glass
10680 East Desert Cove
Scottsdale, Arizona 85259
Phone 480-767-8220
Fax 480-767-8267
E-mail IGTGlass@aol.com

Glas Trösch AG
HY-TECH-GLASS
Industriestrasse 12
CH-4922 Bützberg

Phone +41 (0)62 958 54 00
Fax +41 (0)62 958 53 94
hytechglass@glastroesch.ch
www.glastroesch.ch
www.luxar.ch



BRONZE ARCHITECTURAL HARDWARE

STYLISH

Something happens when you touch one of our handles. There's a strength and integrity you can feel. Our handcrafted hardware is cast in solid, art-grade bronze and finished in your choice of seven patinas, each with its own warmth, character, and style. Classic, contemporary designs for the entry, kitchen, bed, and bath, with a quality that you'll see and feel every day, year after year.

888.552.9497
rockymountainhardware.com

ROCKY MOUNTAIN[®]
H A R D W A R E

CIRCLE 99 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/



Calatrava Wins the Gold

After Santiago Calatrava, FAIA, was handed the 2005 AIA Gold Medal in Washington, D.C., this February, he revealed in his speech the deep, even spiritual, passion for building that has helped him create one of the most notable bodies of work in contemporary architecture. A builder, he quoted from a biblical text, “must carry out a spirit beyond human capability.” Calatrava himself is the embodiment of such a worker, creating forms possessing a soulful, even heroic character, larger than life. His sculptural works simultaneously display sensual, ambitious, and poetic qualities. We feel as if we’ve seen his structures in our imagination and in our aspirations, but never before in reality; and it is his unyielding spirit, frozen in form, that profoundly moves ours. *Sam Lubell*

Portrait by Nathan Beck Photography

By Alexander Tzonis

Less than a generation ago, the split between construction technology and cultural expression in architecture appeared to be irreversible. With the exception of a few “high-tech” buildings, mostly of limited appeal to the broader public, the humanistic unity of art and science in design looked as if it was irrevocably lost. It is remarkable how fast and unexpectedly the situation has changed. Many factors and people played a role in this reversal; without a doubt, one of the most significant contributors was Santiago Calatrava.

Calatrava’s buildings, engineering projects, and furniture taken together with his drawings, sculpture, and scientific research, manifested that a genuine unity of rational intelligence with poetry is still possible; a very rare synthesis in our time. His built projects succeeded in overcoming the barriers between pragmatism, infrastructure service, and intellectual expression. They restored a general enthusiasm for the art of construction, bringing back an excitement about it long gone since the 1950s. They dispelled the bias against technology as something by definition dull. Most important, they demonstrated that utilitarian artifacts do not have to be oppressive and disruptive but can evoke delight and a sense of identity.

At first glance, Calatrava’s designs look complicated and perplexing. The complexity of their configuration and the “strangeness” of their shape are born out of a commitment to facing hard design problems without compromise, without conforming to the beaten track of reductive solutions. As the Stadelhofen Railway Station in Zurich (1983–90) shows, his structures operate on two levels. On a first level, they are intelligent technological solutions to programmatic functional demands. As a result, the kernel of the form of his projects appears direct and plain. Yet on a second level, they go beyond the limited and static problem-solving kind of design. They meet head-on economic, technological, environmental, social, and cultural challenges, acquiring intricate and rich forms.

The commitment to targets beyond narrow problem-solving objectives accounts for the primacy given to motion and movement in Calatrava’s projects, and as a result their manifest dynamic spatial organization. In the Milwaukee Art Museum (2001), for example, key structures contain mobile parts and articulate streamline-shaped conduits to accommodate systems of circulation. But they also imply movement appearing to have been designed to the “critical point”: in engineering, the state beyond which, if a certain variable in a structure is exceeded, the interatomic bonds of its body will be broken and the structure will fly in all directions at once. Yet, there are more profound cultural, epistemological, and moral reasons explaining the perplexity raised by Calatrava’s structures. In aesthetic terms, the idea of the “critical point” is translated into the idea of the “pregnant moment,” the figure that represents through its form both past and future states of a body. We can see that clearly in most of his bridges: in the bent arch of the Volantin Footbridge in Bilbao (1990–97) or the leaning pylon of the Alamillo (1987–92) or the Light Rail Train Bridge in Jerusalem (begun in 2002). In other words, the structure appears to capture the moment as if falling, but it is not; it seems to be rising, but it is not. Almost all of Calatrava’s projects combine into one figure these two apparently contradictory states of a structure, leaning on the brink of imminent collapse and on the verge of standing up.

After having gone to so much effort to reach the satisfactory technological ends to make the structure optimally lasting and durable, Calatrava appears to enjoy and exploit, like an acrobat or a dancer, this state of suspense. One can also claim that he wants the user of his works equally to enjoy it. The question is how, and perhaps more important why, so many people experience the same enjoyment. The answer seems to be that Calatrava in these dynamic structures constructs a metaphor that alerts us

that optimal technological solutions are necessary. The sense of perplexity and wonder embedded in his designs has to do with the very human creative yearning for remaking one’s life, for repairing wrong: the never-ending search for a meaning and a definition of the good life.

It is these principles that make Calatrava’s structures so appealing and so uniquely engaging, that give them coherence and rigor at all scales, from their general configuration to their individual details. A series of five new bridges over the Trinity River and future lakes in Dallas, Texas (1998), and a group of three bridges over the Hoofdvaart in Haarlemmermeer, the Netherlands (1999–2004), demonstrate that it is these principles that account for the felicitous fit of the new structures into the landscape, the excitement they generate, despite the fact that they stand conspicuously in full view. Similarly, within historic urban settings, Calatrava’s projects do not simulate forms of the past, nor do they hide or sink. Yet they do not offend, as one can see in his Lusitania Bridge (1988–91) in Spain standing next to a famous Roman bridge. In their cutting-edge technology and strangeness of appearance, these structures make their users or viewers reengage with the present while honoring the past. Finally, situated in socially challenging areas like Ground Zero, neighborhoods undergoing economic decline, or obsolescent industrial sites, Calatrava’s works do not disrupt existing human ties, as most architectural interventions have since the 1960s. Without the rhetoric or demagoguery of populism, they bring hope.

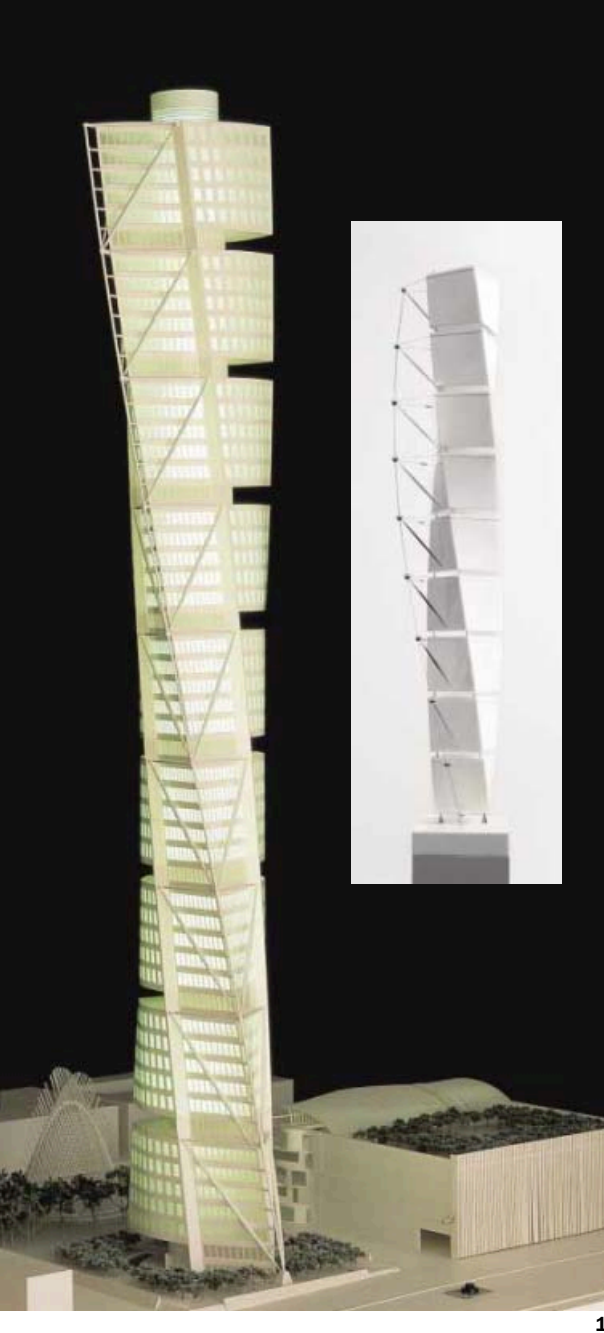
To be effective, the poetics of movement requires rigor and control; and to operate on the two levels mentioned above demands knowledge that participates in multiple domains. This cornucopia of knowledge was accumulated by Calatrava through continuous, intense “patient research,” as Le Corbusier once said. He studied at an arts and crafts academy in Valencia, at the Ecole des Beaux Arts in Paris, at the Escuela Técnica Superior de Arquitectura in Valencia, and at the Swiss Federal Institute of Technology in Zurich, in addition to countless years of self-instruction on vernacular and international architecture. The subsequent method Calatrava has chosen for much of his research over the years has been envisioning possible schemes within existing precedents rather than counting and computation; and the technique to carry this out was sketching. The precedents Calatrava used to recruit by analogy and drawing were flying birds, bulls, and in particular, the human body, all having structural similarities with the new artifacts to be conceived. Calatrava produced an endless series of sketches of real-life objects offering a variety of configurations filling up an endless series of notebooks. All humans are endowed with these two contradictory, yet complementary intelligences: analysis and analogy. Few cultivate them to develop their complementary potential further. Calatrava did. In this respect, as mentioned in the beginning, Calatrava succeeded not only in delivering good architecture, but also in changing the way people think about architecture, bringing science and technology closer to art. Perhaps less known is that, reciprocally, he is also influencing engineering, bringing design—thinking through vision and envisioning—back to technology.

Perhaps where Calatrava exerted the most important influence and where his impact will be more decisive is with the generation of architects to come and their attitude toward technology. Clearly, Calatrava’s spirit of experimentation combined with genuine enthusiasm, but also solid realism, has helped dispel a climate of indifference if not suspicion for things technical that was building up in a large number of academic institutions for the past three decades. ■

Alexander Tzonis, a professor at the University of Delft, is the author of several books about Santiago Calatrava’s work.

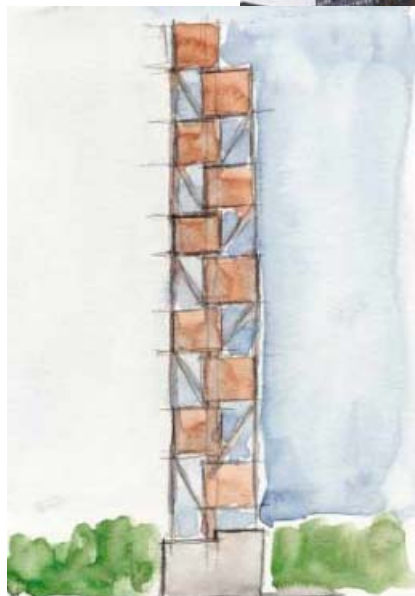
Cittern Bridge,
Haarlemmermeer,
the Netherlands, 2004.
[RECORD, November
2004, page 156]





1. Turning Torso,
Malmö, Sweden, 2005
(estimated completion).

2. 80 South Street,
New York, New York,
2006 or 2007
(estimated completion).



2

1

FUTURE PROJECTS

Over the years, much of Santiago Calatrava's work has been influenced by his experiments in sculpture, a field that has piqued his interest since childhood. Buildings like the Tenerife Opera (page 172, 5) and bridges like the three over the Hoofdvaart in the Netherlands (page 165) echo his sculptures' tendency to embody movement, elasticity, and human and organic form. His newest works, though, experiment with concepts of weight and gravity, as if he had grown tired of the mundane constraints of the Earth. Technological advances and large budgets have helped further the ambitious character and scale of these projects.

Calatrava's current 80 South Street project, an 835-foot high-rise apartment building in Lower Manhattan (2) made up of 12 glazed cubes radiating around a central core, is an almost exact replica of a sculptural work that the architect displays in his Manhattan town house. His *Turning Torso* high-rise in Malmö, Sweden (1), a twisting form also radiating

around a central axis, is based on a torquing, white Thassos marble and chrome-plated steel sculpture of 1991 called *Twisting Torso*. Three new towers in Valencia, Spain (5), the final pieces of his immense City of Science, further elaborate on the ability to twist materiality and challenge gravity. Named *Valencia*, *Castellón*, and *Alicante*, each building's glass, steel, and concrete form will twist upward on a central axis, taking on new shapes, such as spindles and even a drops of water, as they progress skyward.

Meanwhile, ambitious new building scales carry Calatrava's free-form and kinetic sculpture to new realms. His Atlanta Symphony Center (4) will not only make room for 2,000 people, but its giant surrounding shells and fins will reach almost 200 feet in the air. One of the immense structure's primary goals will be to draw attention to itself, a goal expressed by the architect: "Architecture has this wonderful capacity to make a place unique. To become a symbol." Calatrava's kinetic World

IMAGES: COURTESY SANTIAGO CALATRAVA S.A.;
EXCEPT AS NOTED; © DAVID SUNDBERG/ESTO/
SANTIAGO CALATRAVA S.A. (2)



4

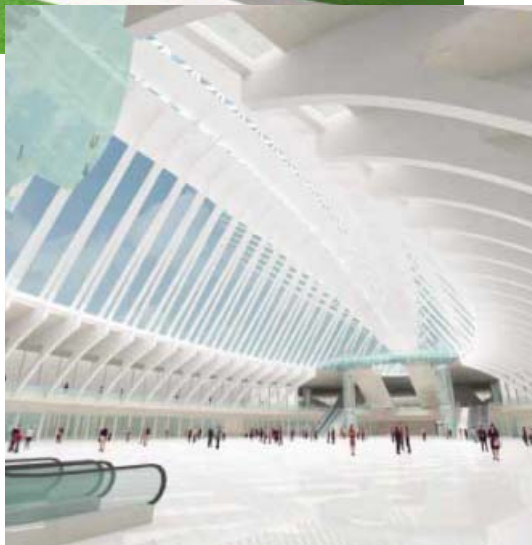
5



**3. World Trade Center
Transit Hub, New York,
New York, 2009
(estimated completion).**

**4. Atlanta Symphony
Center, Atlanta,
Georgia, 2008
(estimated completion).**

**5. Valencia Towers,
Valencia, Spain, 2007
(estimated completion
of first tower).**



Trade Center Transit Hub (3), which will sit on the eastern edge of the Trade Center site within its own plaza, will cost \$2 billion, contain more than 200,000 square feet of interior space, and help transport over a quarter of a million commuters a day. At street level, an ovalar, wing-shaped, 168-foot-high movable glass-and-steel structure will greet visitors. Underground, the station will feature roughly 200,000 square feet of retail, open space, and train platforms. When finished, Calatrava's City of Sciences in Valencia (page 170, 2), clearly related to human forms, will be one of the largest built projects in the history of Spain.

These are just a few of the busy architect's future projects. New bridges under way include striking forms over the Trinity River in Dallas, Texas; the Macken Street Bridge in Dublin, Ireland; the Serreria Bridge in Valencia, Spain; the Quarto Ponte in Venice, Italy; and, in Israel, a foot-bridge in Petah Tikvah and a light-rail train bridge in Jerusalem. More

new buildings include a train station in Bologna, Italy; a photography museum in Doha, Qatar; a train station in Liège, France; and university buildings and a sports hall in Maastricht, the Netherlands.

"We all spend time trying to build a new vocabulary," says Calatrava, who notes a progression toward more simple sculptural forms over his career. "This research moves you into some of the most daring adventures of your life." He adds, "We work with material the same way an artist does, inventing along the way. I continue to add new dimensions to my work, because technically we are always able to do something new, and because it is always important to be responsive to our society."

So what's next? That, says Calatrava, is unclear, but he seems sure that it will not be a repeat of what we see now. "The most relevant fact is not where I am today, but the fact that my work is ongoing. You don't look backward; you see the next problem you want to solve." S.L.



1



2

**1. BCE Place, Toronto,
Canada, 1992.**
[RECORD, February
1993, page 84]

**2. Montjuïc
Telecommunications
Tower, Barcelona,
Spain, 1992.**
[RECORD, August 1992,
page 102]



3

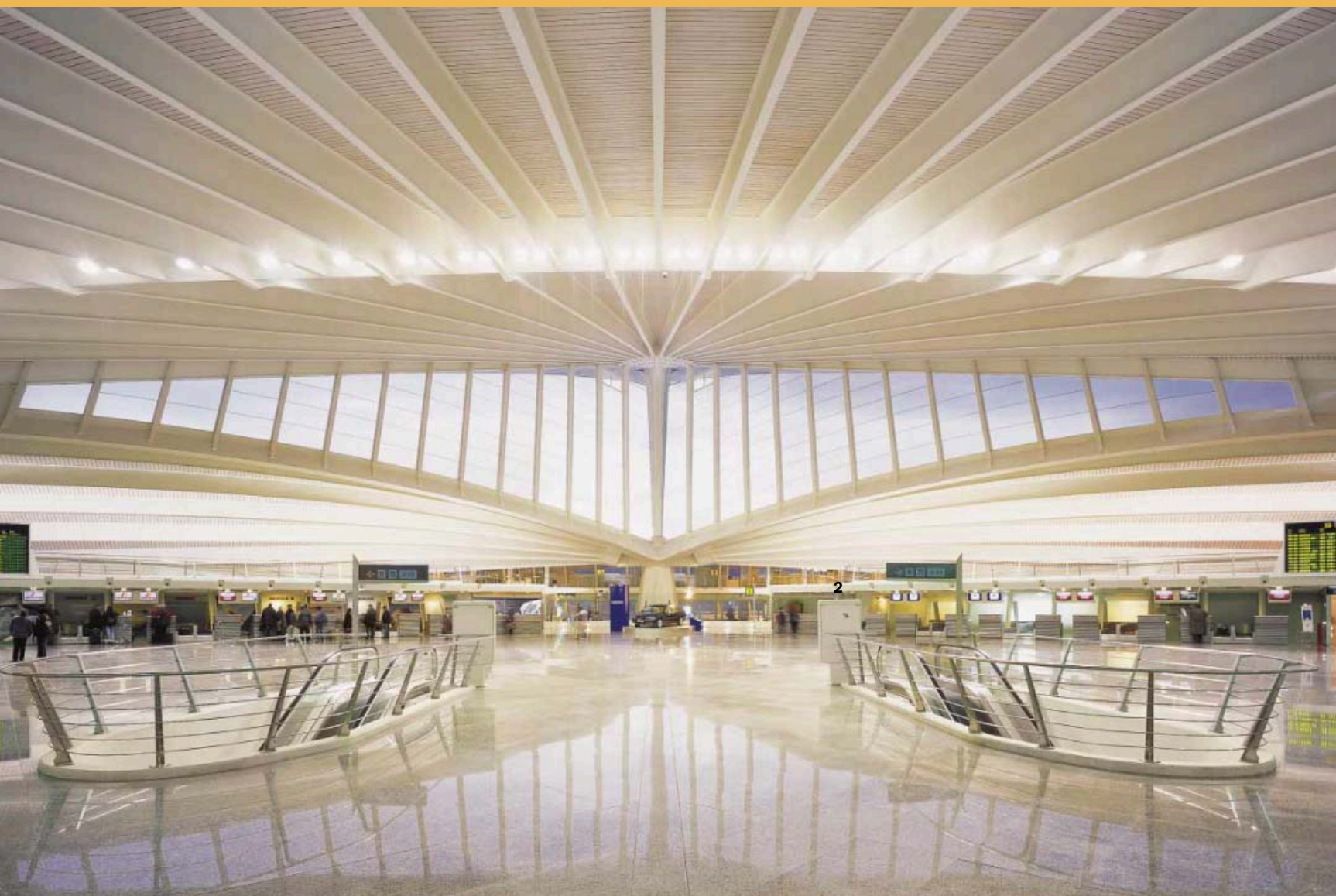
**3. Lyon Airport Station,
Satolas, France, 1994.**
[RECORD, July 2000,
page 85]

**4. Oriente Train Station,
Lisbon, Portugal, 1998.**

4



TLCeB00H



1

1. Sondica Airport,
Bilbao, Spain, 2000.
[RECORD, July 2000,
page 83]

2. City of Arts and
Sciences (science
museum, planetarium,
promenade, and
parking structure),
Valencia, Spain, 2000.
[RECORD, July 2000,
page 74]

2





3

3. Milwaukee Art Museum expansion, Milwaukee, Wisconsin, 2001. [RECORD, March 2002, page 92]



TLCFeB00H



4

PHOTOGRAPHY: © ALAN KARCHMER (5);
WWW.PALLADIUM.DE BARBARA BURG/OLIVER SCHUH (6)



5

**4. Bodegas Ysios
Winery, Laguardia,
Spain, 2001.**
[RECORD, May 2003,
page 242]

**5. Tenerife Opera
House, Santa Cruz,
Tenerife, Canary
Islands, Spain, 2003.**
[RECORD, February
2003, page 78]

**6. Athens Olympic
Sports Complex,
Athens, Greece, 2004.**

6





Scheherazade Travertine, New Mexico

A real slice of nature.

If natural stone was part of the produce family, they'd probably call it organic.

No chemicals. No additives. No laboratory-induced processing. Just the way nature created it millions of years ago.

Today, there's a new emphasis on the real thing, especially when it comes to the products we eat and the materials we use to build with.

Thanks to new sources of supply around the world and the sophisticated technology that gets it out of the ground and to the fabricator at less cost; beautiful, versatile, affordable natural stone is the natural

choice in every phase of residential, institutional and commercial construction.

At the Marble Institute of America, we're dedicated to helping architects, designers and contractors to understand how they can effectively use nature's oldest building material in their projects now and in the future.

That's why we're offering our popular *Dimension Stone Design Manual VI*, acclaimed around the world, to architects at a special price of \$99. Available in print or on CD.

To get your copy call MIA at 440-250-9222.



**MARBLE
INSTITUTE**
of America

CIRCLE 100 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

www.marble-institute.com

TLFeBOOK

**WE'VE CREATED AN INGENUOUS WAY TO JOIN PANELS AND PARTITIONS.
NOT TO MENTION ARCHITECTS AND BUILDERS.**



45-degree corner caps were used to connect Hy-Lite panels to form this neo-angle shower. Flat caps were used to finish off the top and sides of the doorway, while a flat cap and mounting channel were used to attach the panels to the curb and wall.

Aluminum accessories from Hy-Lite® make it easy for everybody to see eye to eye. That's because they make joining our prefabricated, ready-to-install panels, partitions and radius walls remarkably fast and easy. Panels and partitions can be joined at 45- and 90-degree angles, allowing builders and architects to specify Hy-Lite acrylic block systems in almost any conceivable configuration. Accessories are also available to connect angled walls, to seamlessly join panels, and to beautifully finish the ends of a panel or partitions. With aluminum accessories from Hy-Lite, discovering your imagination is easier than ever. To locate a supplier, call 1-877-712-4013 or visit us at www.hy-lite.com.



Round caps finished off the ends of this radius wall perfectly. Aluminum mulls were used to connect the three radius walls together, while a flat cap mounted the units to the top of the curved wall.



90-degree corner caps were used to connect four acrylic block panels together to form decorative, lit towers. The panels were mounted to the base and top piece with flat caps.

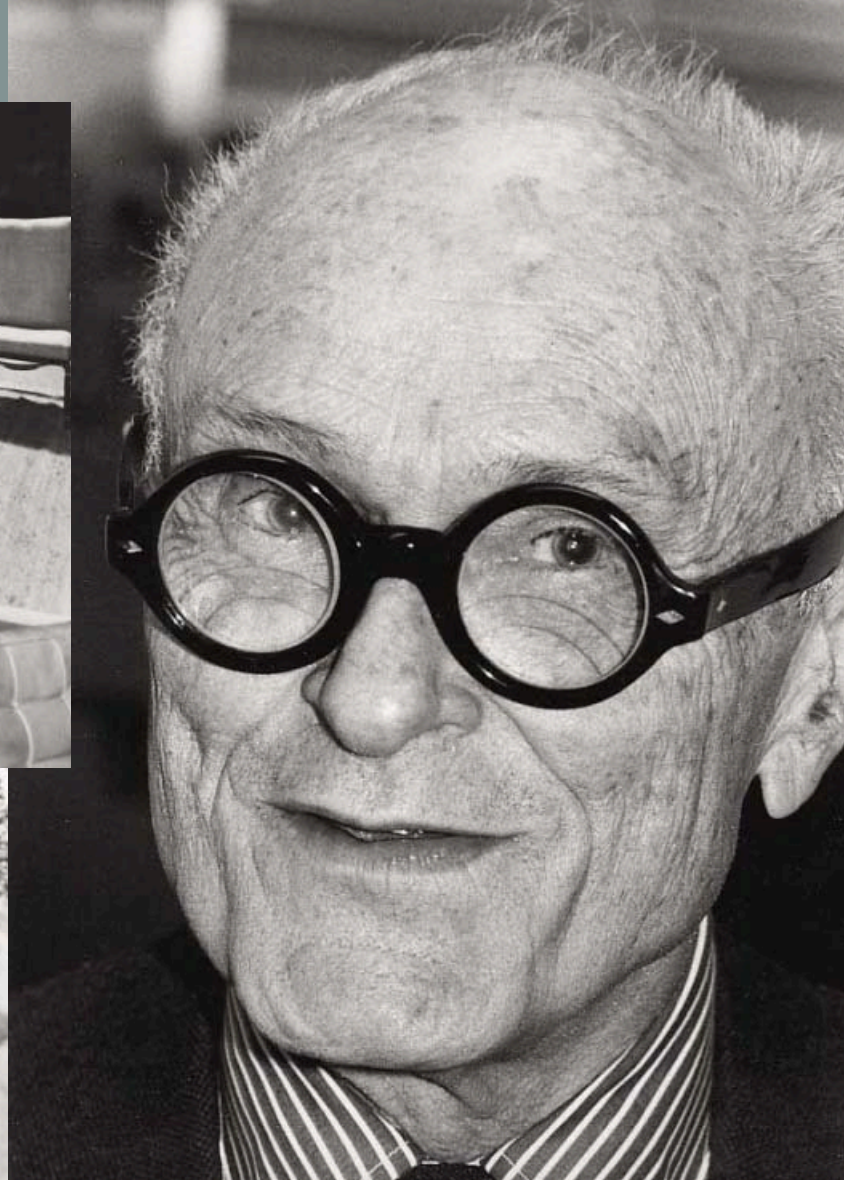


Aluminum mulls were used to connect these flat panels and radius walls together. A flat cap and mounting channel were used to mount the units to the base and the walls. Flat caps were also used to connect the desktop to the top of the panels.

Hy-Lite
PRODUCTS, INC.
Discover your imagination.

CIRCLE 101 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

HYAR0505AC



Clockwise from top left, this page and opposite: Philip Johnson and Mies van der Rohe at MoMA's retrospective of Mies's work, 1947; Johnson in 1985; the Glass House, New Canaan, Connecticut, 1949; Johnson showing the model for the New York State Theater in 1961; Johnson (center) with Alfred Barr, Jr., and Margaret Scolari Barr in Cortona, Italy, in 1932.



PHOTOGRAPHY: © MOMA ARCHIVES (TOP LEFT); DOROTHY ALEXANDER (TOP RIGHT); BETTMAN/CORBIS (BOTTOM RIGHT); MOMA ARCHIVES (BOTTOM LEFT); EZRA STOLLER/ESTO (OPPOSITE)

Philip Johnson:

An American Icon

Can any public figure expect a totally positive obituary today? Philip Johnson, FAIA, who died on January 25, 2005, at 98, probably would have said, “Of course not.” He no doubt knew a “depedestalization” process had to occur as the media’s payback for the fame and glory it bestowed on him during his career. To be more broad-minded, RECORD has asked three longtime observers of Johnson—one, an admirer; another, a detractor; and the third, his biographer—to address key aspects of his life, including its controversies. *Suzanne Stephens*

FEATURES



While working on his biography, I was able to form a considered opinion of Philip Johnson as a person and a professional, and was inclined to believe the majority of his obituaries would be fairly positive. He spent seven decades at the center of the architectural universe—as designer, critic, historian, museum curator, and promoter of younger architects.

Johnson was also a wizard at working the media. In view of that, I am surprised by much of what I have read since his passing in January. More than a few well-informed contrary views have surfaced, notably in articles by Mark Stevens in *The New York Times* (January 31, 2005), Roger Kimball in *The New Criterion's* Weblog *Armavirumque* (January 31, 2005), and by Andrew Saint in *The Guardian* (January 29, 2005). Each drew attention in some detail to Johnson's commitment to the Nazi cause, which was rooted in his privileged family life, his dismissal of the "lower orders" based largely on his worship of Friedrich Nietzsche, and a consequent love of power he saw manifest in the charismatic figure of Adolf Hitler.

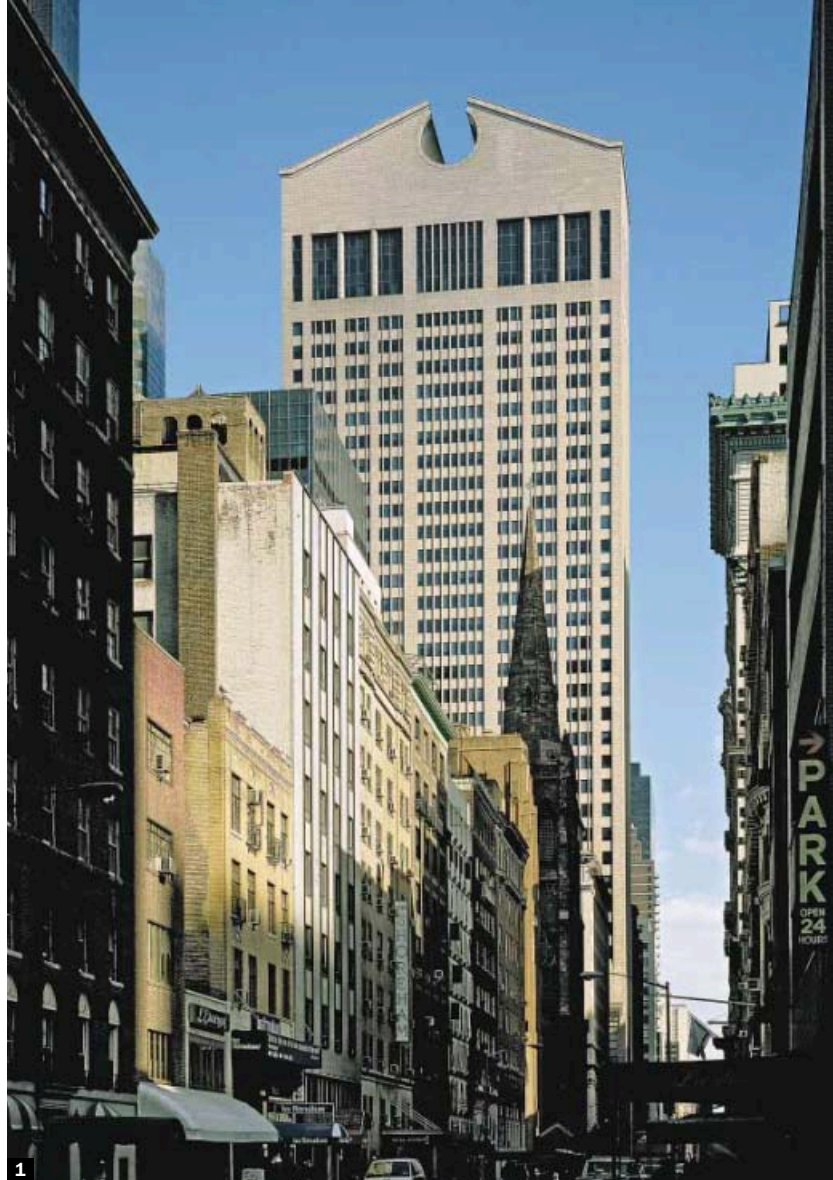
In 1934, Johnson gave up a promising position as chair of the architecture department at the Museum of Modern Art and spent most of the next six years in pursuit of political goals that varied from following the bandwagon of the demagogic Louisiana politician Huey Long to running for office in his native Ohio on a populist, anticapitalist agenda to writing attacks on Franklin Delano Roosevelt for *Social Justice*, a periodical sponsored by the anti-Semitic "radio priest" Francis Coughlin, and eagerly following Hitler's Wehrmacht when it invaded Poland at the beginning of World War II. Though he shifted from one political objective to another during this period, he remained true to his belief in power, especially if manifest in someone—like Hitler or Long (or Mies van der Rohe, for that matter)—who seemed to Johnson a prophetic figure in the Nietzschean mold. He did not overtly surrender his political orientation until he was identified as a "fascist" in a best-selling book *Berlin Diary: The Journal of A Foreign Correspondent, 1934–1941*, by William L. Shirer, published in 1941. By then, Johnson had withdrawn from politics to enroll as an architecture student at Harvard in the fall of 1940. Even then, the exercise of power, now returned to the aesthetic realm, remained a central motivation.

Many of the obituaries, commenting on the body of his architectural work, have leveled tougher and more unsparing criticism than I anticipated. There has been little praise for the big corporate buildings, like the AT&T Building, now Sony Plaza (1), that brought him such a flood of publicity. The two works that have been remembered most affirmatively are small in size: the exquisite Museum for Pre-Columbian Art at Dumbarton Oaks in Washington, D.C. (2), and his own purist Glass House in New Canaan, Connecticut (page 177). And even the latter would not have been designed as it is without the model of Mies's Farnsworth House (1951). The obituaries have left the impression that many critics regard him primarily as a pasticheur.

Probably that is what Johnson was—a "flibbertigibbet," as he called himself. His mercurial intelligence com-

(continued on page 374)

Franz Schulze, the author of *Philip Johnson: Life and Work* (1994), is Betty Jane Schultz Hollender Professor of Art, Emeritus at Lake Forest College.



**1. ATT Building (now Sony Plaza),
New York, New York,
1984.**

**Philip Johnson and John Burgee
and Simmons Architects**

**2. Museum for Pre-Columbian
Art, Dumbarton Oaks,
Washington, D.C.,
1963.**

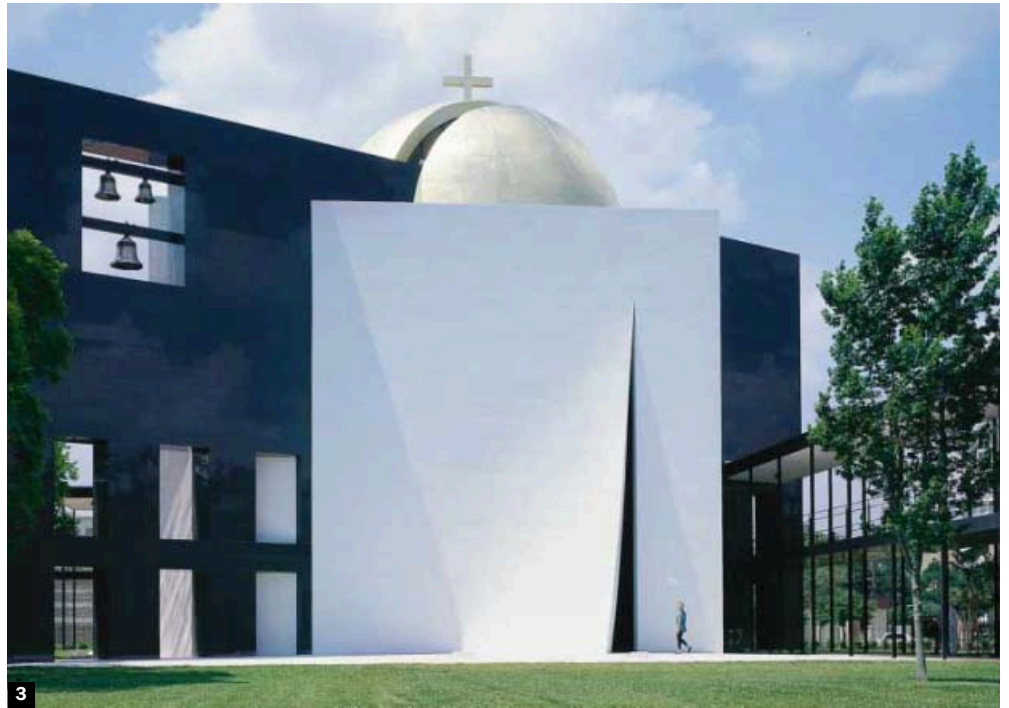
Philip Johnson Associates

**3. Chapel of St. Basil,
University of St. Thomas,
Houston, Texas,
1997.**

**Philip Johnson, Ritchie & Fiore
Architects with John Manly
and Merriman Holt Architects**

**4. University of St. Thomas
master plan: Strake, Jones
and Welder Halls,
Houston, Texas,
1957–59.**

**Philip Johnson Associates
with Bolton & Barnstone**



**5. Crystal Cathedral,
Garden Grove, California,
1980.**

**Johnson/Burgee Architects
with Albert C. Martin Associates**

**6. IDS Center,
Minneapolis, Minnesota,
1973.**

**Philip Johnson and John Burgee
with Edward F. Baker Associates**

**7. Four Seasons Restaurant at
the Seagram Building,
New York, New York,
1959.**

**Philip Johnson with William
Pahlmann Associates**



In the wake of his recent death, Philip Johnson has been lauded for his curatorial acumen, his social grace, and his collegiality, especially to the young. But he has not been praised for another attribute—that of being a very talented architect. Johnson deserves to be remembered for his architecture, which should be foremost in any assessment of his life.

Johnson was one of the commanding talents of the postwar generation of American architects. He built beautifully. Very many of his buildings challenged accepted formal tropes. Was he the greatest architect of the 20th century? I'll leave that assessment to others. What I will say is that not one building by Johnson has failed to give me pride in being an architect, in knowing what an architect can accomplish. I have learned something from every one of his buildings—and they have given me a great deal of pleasure.

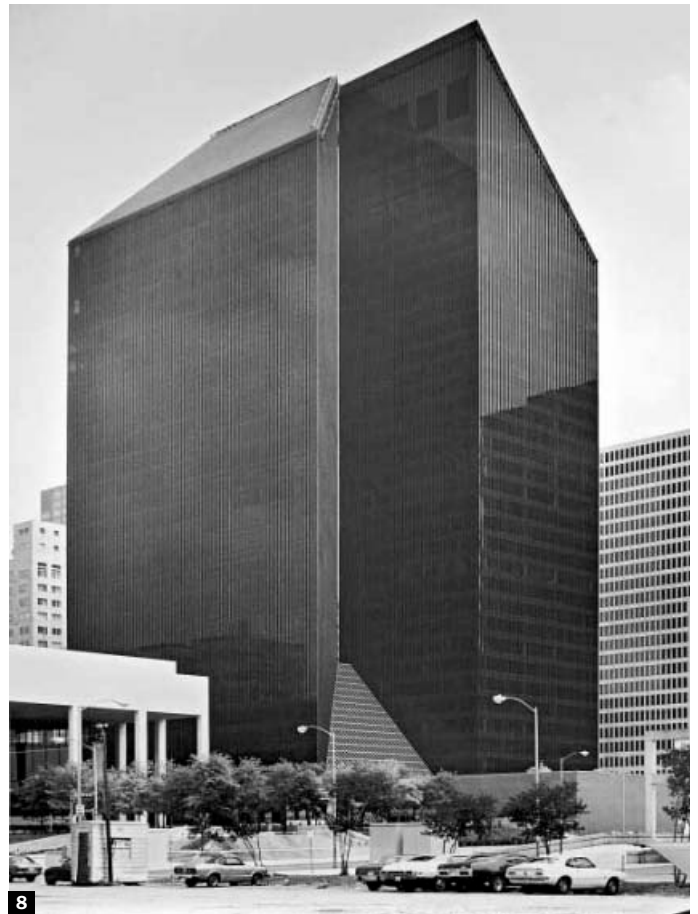
Johnson was a master of planning. Indeed, I would say he was one of the few genuine functionalists among a generation that professed utility but seldom achieved it. He was also a master of siting and landscape, one of the very few in our time. Take the Glass House (page 177) and its outbuildings as a case in point. Over many years, I was lucky enough to frequently visit that consummate 20th-century estate park, as new buildings were added and the landscape evolved. Each building opened up a new architectural direction; even more remarkable was the placement of the buildings and the paths of “procession,” to use Johnson’s term, which connected them.

The Glass House as well as the Sculpture Garden at the Museum of Modern Art in New York (10) are acknowledged masterworks. But I would like to praise some other Johnson designs that embrace the landscape. For example, the Fort Worth Water Garden (12), where, in the center of a busy city, extraordinary geometries are cut into the earth to evoke the sounds and shapes of nature’s aqueous crevasses without indulging in obvious representationalism. Another superb Johnson building-in-landscape, though of a completely different scale and character, is the Museum for Pre-Columbian Art at Dumbarton Oaks in Washington, D.C. (page 178, 2). Nestled into greenery, its exquisitely detailed, bijoulike, shallow-domed galleries carried on round columns framing curved glass panels bring the spatial magic of late Roman architecture to life in a wholly modern way.

Philip Johnson and John Burgee’s IDS Center, Minneapolis (page 179, 6), propelled Johnson into the forefront of commercial architecture. Yet he also confronted the important issues of center-city urbanism, for he made a positive feature of Minneapolis’s existing, vitality-draining, two-level pedestrian circulation system. Reimagining the central glass-covered light courts of 19th-century office buildings and hotels, he created one of the few convincing, lively, wholly enclosed urban public places of the postwar era.

After IDS, Johnson, working with Burgee, designed some of America’s best skyscrapers. With the two Pennzoil towers in Houston (1976), he came closest of any architect to adapting the Minimalist sculpture of the 1960s and 1970s—such as the work (continued on page 375)

Robert A.M. Stern, FAIA, is principal of Robert A.M. Stern Architects and dean of the School of Architecture at Yale University.



**8. Pennzoil Place,
Houston, Texas,
1976.**

**Johnson/Burgee Architects
with S.I. Morris Associates**

**9. 53rd at Third ("Lipstick")
Building,
New York, New York,
1986.**

**John Burgee Architects with
Philip Johnson**

**10. Abby Aldrich Rockefeller
Sculpture Garden,
Museum of Modern Art,
New York, New York,
1953.**

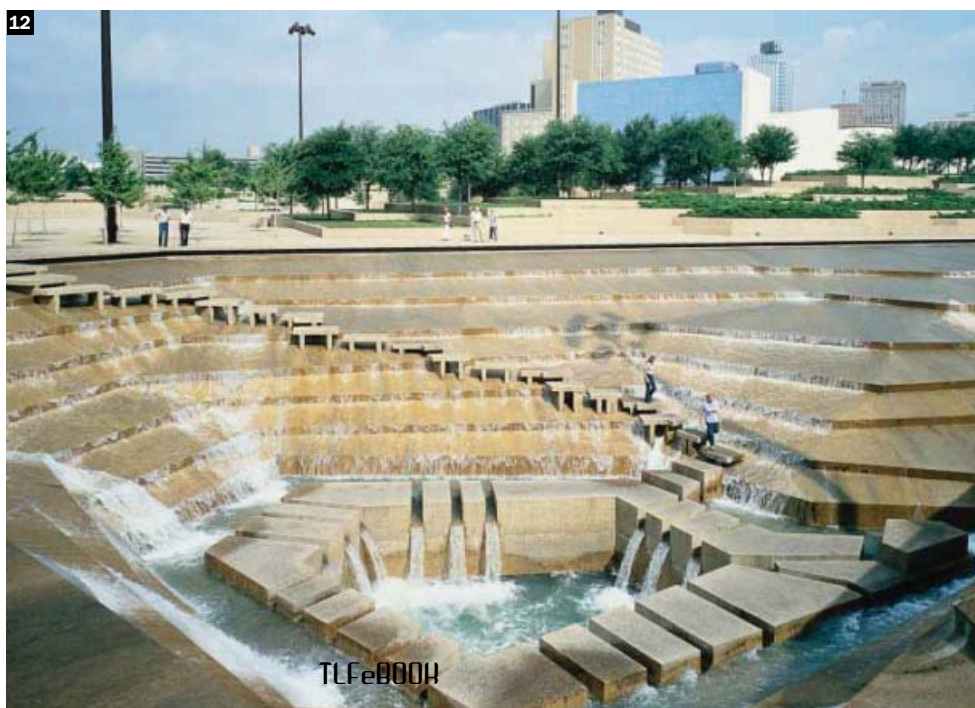
**Philip Johnson Associates
with Landis Gores and George
Hopkinson; James Fanning,
landscape architect**

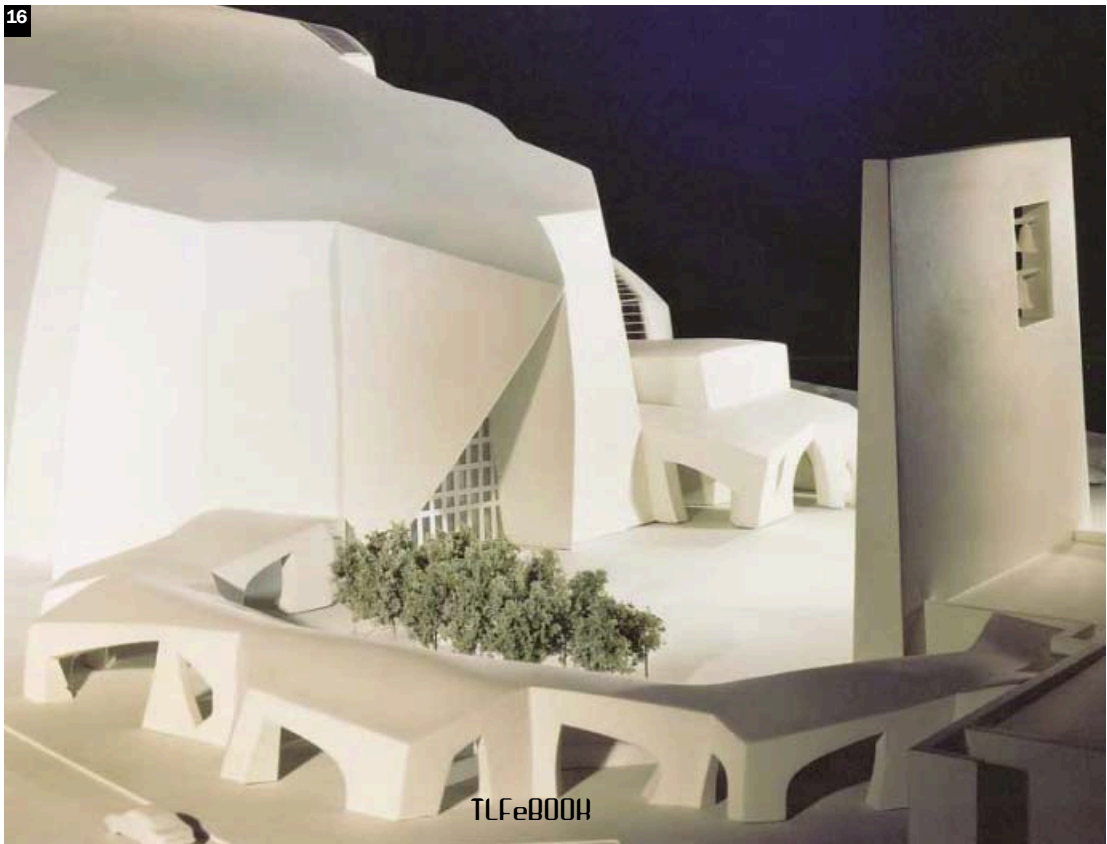
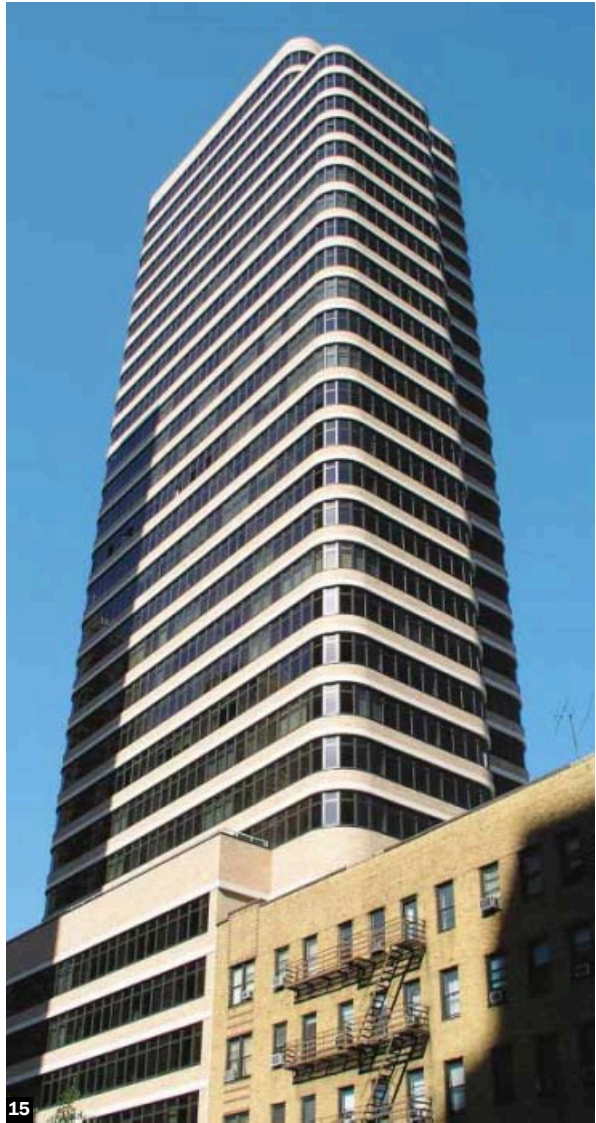
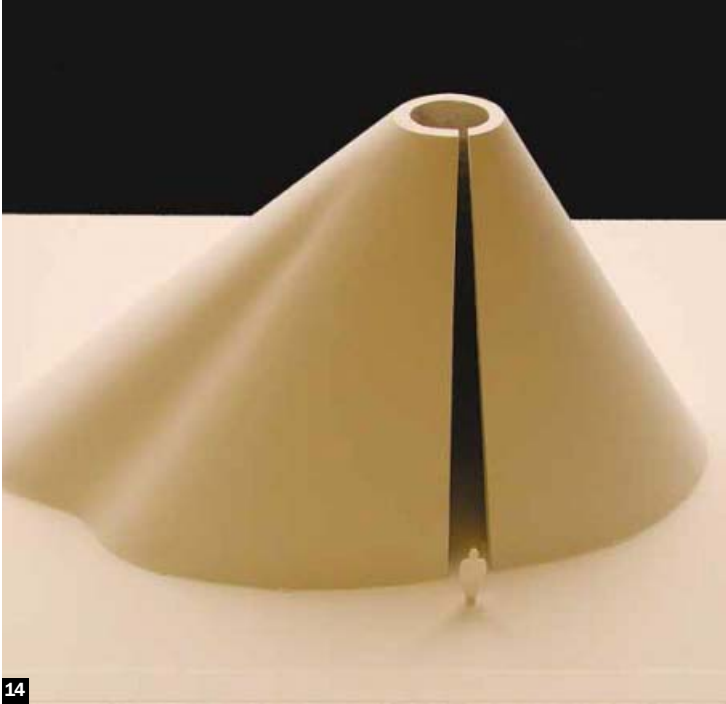
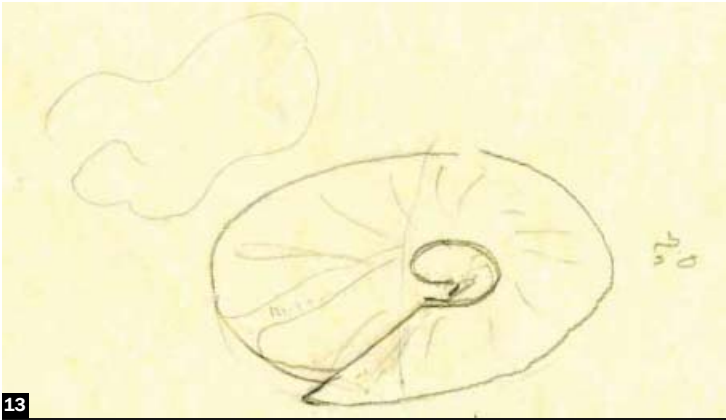
**11. John F. Kennedy Memorial,
Dallas, Texas,
1970.**

Philip Johnson

**12. Fort Worth Water Garden,
Fort Worth, Texas,
1974.**

Johnson/Burgee Architects





The past year has seen the demise of two major figures of American culture, filmmaker Russ Meyer and architect Philip Johnson. Although Meyer was the purer talent, both made enduring, seminal contributions to the ironic, vaguely pornographic, and deeply kitsch sensibility that has become one of the major markers of our contemporary creativity.

Meyer—the celebrated soft-core “King Leer”—began his career as a combat photographer during the Second World War, went on to make industrial films and take photographs for *Playboy*, leading to his cinematic breakthrough in 1959 with *The Immoral Mr. Teas*, a film which *Time* magazine suggested had “opened the flood gates of permissiveness as we know it in these United States.” The film was Meyer’s Glass House, for it put him on the map by exposing almost everything. His oeuvre went on to include such legendary works as *The Supervixens*, *Beyond the Valley of the Dolls*, *Beneath the Valley of the Ultravixens*, and *Faster Pussycat, Kill, Kill*, the latter described by John Waters as “beyond doubt the best movie ever made.” Meyer himself responded to the film’s cult status by insisting that “too much emphasis is put on it being significant.”

The critic Roger Ebert—author of the screenplay for *Beyond the Valley of the Dolls*—described Meyer as having “a sensibility somewhere between Andy Warhol and Al Capp,” a succinct appreciation. Meyer’s legendary attachment to big breasts (often described by him in such architectural terms as “cantilevered,” “superstructure,” etc.) is strongly analogous to Johnson’s feeling for architecture, which might, in its sensibility, be described as somewhere between Andy Warhol and Walt Disney. Both Meyer and Johnson were professionally inspired by a deeply felt connoisseurship of the chosen objects of their affection, and both devoted their lives to inventing forms of representation that were worshipful rather than inventive. Both also displayed a critical relationship to their own work that consistently refused to treat it seriously according to the canonical theories of the day. And both were clearly enabled by the sense of liberation that grew out of the styles of consumption that blossomed in the 1950s.

The central mass-cult figure of the period was certainly Disney, whose project suffuses the work of both Meyer and Johnson. For Johnson, the kitschily creative geography of Disneyland, with its recombinant approach to form and style, was the substrate of his own practice. By liberating the juxtaposition of nominally discrepant, phony mimetic architecture in space—Main Street, U.S.A., terminated by Ludwig’s Castle—Disney anticipated the temporal trajectory of Johnson’s career, which in due course managed to superficially ape virtually every known architectural style and, in turn, freed a legion of hacks to do the same.

Because Johnson and Meyer so succinctly embody the sense of excess that is central to kitsch, both are likely to be remembered less as auteurs than as exemplars. Both represent the entertaining but vapid core of American mass culture, the complete disengagement of form from constructive systems of meaning, amusing inducements to stop thinking. Although Meyer was well grounded technically (continued on page 377)

Michael Sorkin, a *RECORD* contributing editor, is director of the Graduate Urban Design Program at the City College of New York.



13. Al-Thani Sculpture (conceptual sketch) for Sheikh Saud Bin Mohammad Ali Al-Thani
Doha, The State of Qatar,
2005 (completion).

Philip Johnson/Alan Ritchie
Architects

14. Al-Thani Sculpture (model) for Sheikh Saud Bin Mohammad Ali Al-Thani
Doha, The State of Qatar,
2005 (completion).

Philip Johnson/Alan Ritchie
Architects

15. The Metropolitan
(apartment building),
New York, New York,
2005.

Philip Johnson/Alan Ritchie
Architects

16. Cathedral of Hope,
Dallas, Texas,

2008 (completion).
Philip Johnson/Alan Ritchie
Architects

17. TransGas Energy Systems,
Cogeneration Plant,
Brooklyn, New York,
2009 (completion).

Philip Johnson/Alan Ritchie
Architects

Tensioned Membrane. Relaxing Architecture.

GRABOPLAN

Tensioned membrane structures are relaxing. And fun. Go to a football game, do some shopping, board a cruise ship, catch a plane, listen to a concert. Do it all under a Graboplan membrane roof that protects you from glaring sunlight, driving rain and howling snowfall. All while transmitting comfortable diffused natural light. Relax. Graboplan structures take on the coldest winters, the hottest summers, the strongest winds. Any size structure, any place, any season.

716.759.1170 www.graboplan.us

CIRCLE 102 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/



Graboplan



LONNOVA UV

For inner space.
Award winning vinyl flooring with starlike spectra.
Dry erase, easy care, UV cured urethane finish.

Catch our latest innovations at
ICFF

New York, NY
May 14 - 17 2005
Exhibit No.1244

LonNova Moonlit # 295
Low maintenance. UV cured urethane finish.

LONSEAL
FLOORING

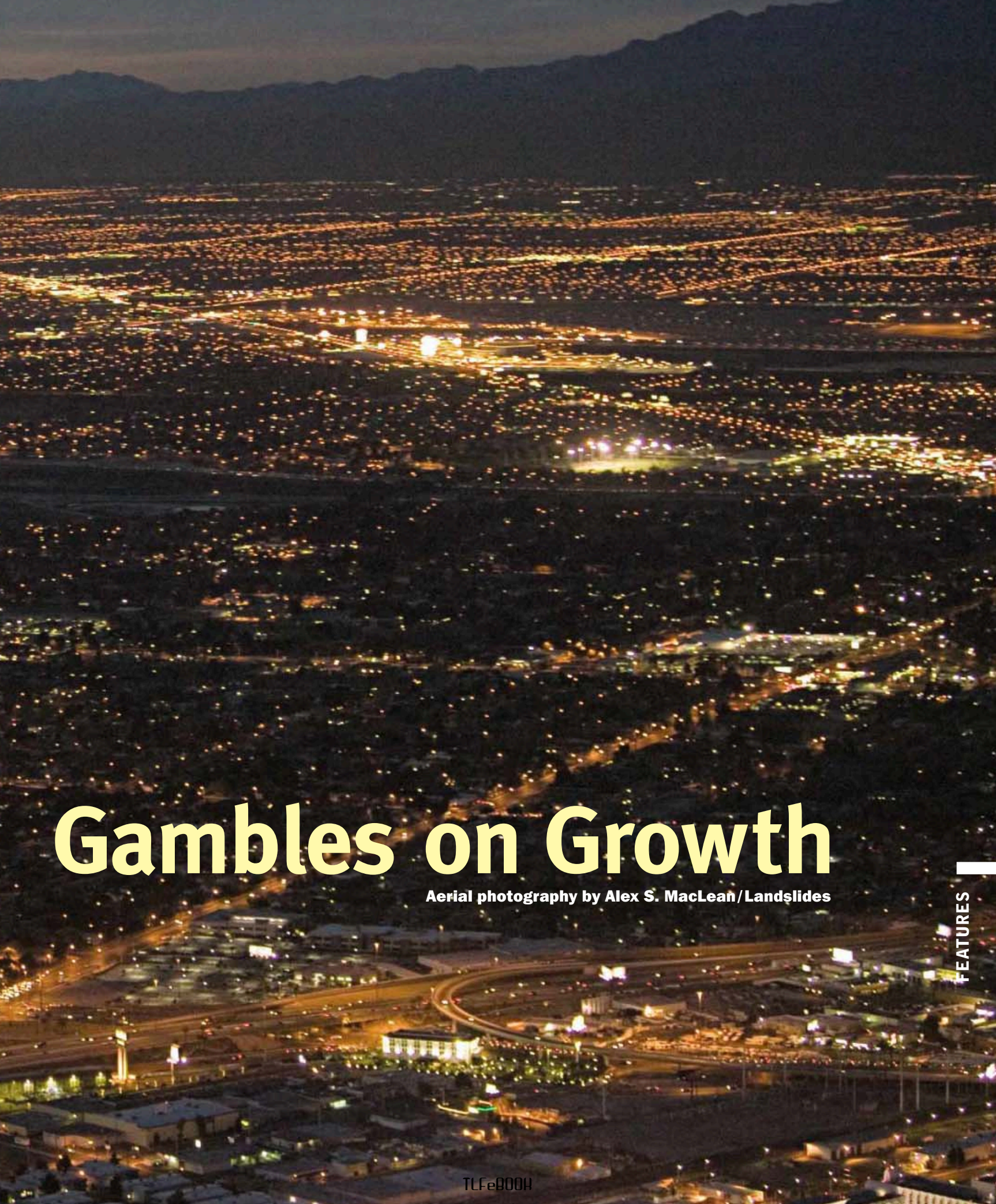
PHONE 800 832 7111 • WWW.LONSEAL.COM

CIRCLE 103 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

TLCFeBOOK

Though the gaming
economy still powers
Las Vegas (below),
growth itself is nearly
as important.

Las Vegas



Gambles on Growth

Aerial photography by Alex S. MacLean/Landslides

FEATURES

By James S. Russell, AIA

It still galls a lot of people that a Strip festooned with a desperate neon exuberance, that preys on get-rich-quick dreams and advertises has-been headliners, could become an economically vital metropolis of 1.8 million people. Every year tens of thousands of recent immigrants realize the quintessential American desire to make it in Las Vegas.

Las Vegas happily confounds its naysayers. It has created a vibrant metropolitan economy on gambling, an activity that remains a vice in the eyes of many Americans (one that tends to attract other vices). Pundits periodically predict the demise of this, um, house-of-cards economy. But smart money has been ignoring the warning signs for decades. Las Vegas found an economic-success formula that eludes so many other places: high growth combined with low costs. It's been affordable to all but the lowest-paid service workers—and many of them are far better paid than they are elsewhere because Las Vegas is one of the most unionized cities in the country. Low taxes and hands-off regulators make it easy to start a business here, and easy for those businesses to expand.

Rapid population growth (around 100,000 per year) adds new customers and new opportunities every day. Designer Richard McCann and two partners came up with the idea for Loft 5, a stylishly contemporary residential project on the fast-developing south Strip. "It's been a dream project," he said by cell phone. "We conceived the project, tied-up the land, and got a partner in two weeks." The project broke ground last month with 65 percent of the units presold. A local architect has pre-

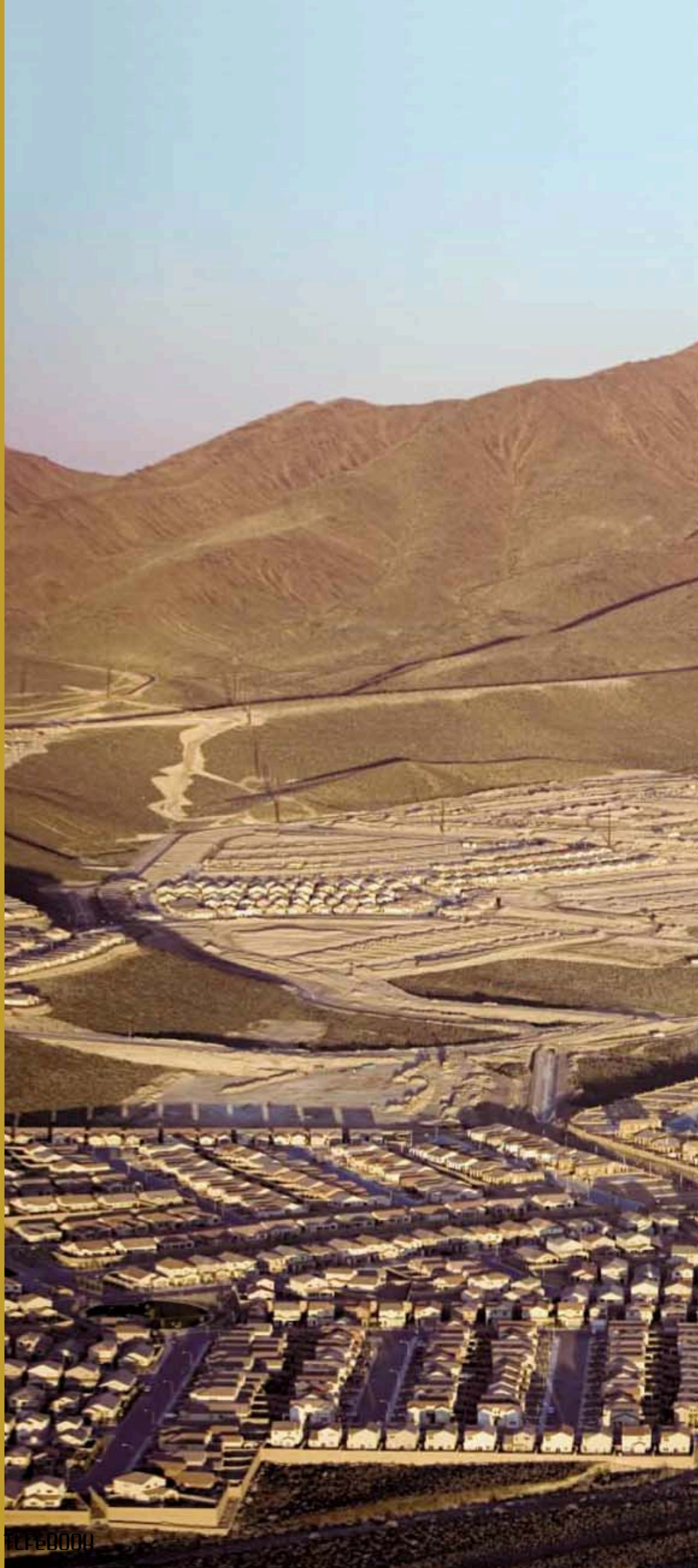
"NO ONE'S EVER GONE BROKE OVERESTIMATING THE RATE OF GROWTH IN LAS VEGAS."

pared working drawings of McCann's design because he has been out of architecture school only a year and a half. "No one's ever gone broke overestimating the rate of growth in Las Vegas," comments Hal Rothman, a local historian, author of *Neon Metropolis* (Routledge, 2003), radio host, and professor at the University of Nevada Las Vegas.

Affordable no more

Skyrocketing house prices could kill the goose that lays the glitter-encrusted golden eggs, if only because affordability has for so long been a draw. The burgeoning casino industry needs armies of service workers, people often lacking the skills to find good-paying jobs elsewhere, who have been attracted to Las Vegas by its low costs. The just-opened \$2.6 billion Wynn Las Vegas casino complex added as many as 10,000 jobs all by itself. The median house price, though, has risen from \$140,000 in 1997 to \$287,000 at the end of 2004. "Until 2001, two entry-level service workers making 9 to 10 dollars an hour could buy a modest house here," said Steve van Gorp, redevelopment manager for the City of Las Vegas.

Las Vegas is feeling the home-price-appreciation wave evident nationwide, but the recent price spikes have to do with unique conditions. In years past, the metro area has been able to accommodate rapid growth by developing massive empty tracts



Las Vegas builders have accommodated growth by making deals for huge tracts of federal land. Fewer such tracts are available as the city bumps up against sensitive land at its edges.



held by the Federal Bureau of Land Management (BLM). Howard Hughes famously obtained 22,500 BLM acres, where his corporation later developed the sprawling planned community of Summerlin at the western edge of the city, jump-starting the current wave of megagrowth.

Summerlin's first home sale was in 1991. Now only 6,000 of its acres remain as it heads rapidly to its ultimate population of 80,000. Dozens of other planned communities, their size each measured in square miles, have sprouted over the past two decades. But development on such a scale is now history because growth has consumed much of the land BLM is able to dispose of, explained Rod Allison, a planning manager in Clark County's Comprehensive Planning unit. (The county encompasses all of metropolitan Las Vegas.) Raw land prices are about 10 times higher than they were four years ago. "Even if there's not an actual scarcity, there's a scarcity dynamic," says Robert Lang, of the Metropolitan Institute at Virginia Tech, who studied the area as part of research he's done on fast-growing "boomburbs." As you get near capacity, he adds, "you build out rich, not poor."

There's little handwringing about this transformed development economy. It's seen as just another opportunity for those visionary enough to figure out how to profit by it. As it has tended to do, Las Vegas casually tosses out the old development model and just as casually embraces a new one. "Builders have

BUILDERS HAVE PLANNED 300- AND 400-FOOT-TALL TOWERS ALL OVER THE VALLEY.

tried to keep housing affordable by shrinking lot sizes," says Rothman. Even single-family housing has tightened up to as many as 14 units per acre, comparable to the densities of brownstone blocks in cities like New York or Boston.

What's built today conspicuously lacks the charm of the Back Bay or Brooklyn Heights, however. At the urban edge, beyond the partly finished beltway, the boxy beige stucco houses have simply been shoved ever closer together. "You can't even drive a car between them," marvels Lang. Punched vinyl windows gaze across the few feet of graveled areaway to other punched vinyl windows. Vistas to the stunning mountains or the glittering Strip are mystifyingly ignored. It's a vision of suburbia so degraded that the advantages of the single-family home have all but disappeared.

Summerlin leads the way in planned design locally, and Charles Kubat, who was a vice president for planning and design at the Howard Hughes Corporation (and is now vice president of planning and design at Carina Corporation, a builder), showed me a neighborhood where density is handled more gracefully. Lot lines of houses zigzagged to accommodate off-street garages and pleasing shared entry courtyards. Graceful as these gestures are, they are rare. The design challenge of density in Las Vegas has yet to find uniquely local expression. If density can't be more often combined with genuine amenity, it's not hard to imagine a backlash developing against it. Instead, most builders sell packages of upgraded appliances or the dubious prestige and security of gated "communities." (The ubiquity of gates notwithstanding, burglaries and rape, like most categories of crime, run much higher than national averages here.)

High-rise craze

Closer to the Strip, Las Vegas has decided there's nowhere to go but up—way up. Rapidly inflating land costs have caused developers to skip over conventional higher-density solutions, like garden apartments. "We have 28 high-rise condo projects already approved," says Van Gorp, "with 25 more in the pipeline." Most of the Strip condos have been snapped up by second and third home buyers, Strip celebrities, and speculators. But 400-foot buildings have been proposed all over the valley, combining apartments with a hotel or with shopping. This portends a dramatic change in the city's form. "Only six years ago, we couldn't get anyone interested in building mixed-use projects," said the county's Allison. "Now all that has changed."

Although I kept hearing about an emerging Las Vegas style, developers of these large-scale projects have so far imported types developed elsewhere. SoHo Lofts (JMA Architecture) appropriates a name evoking industrial space, wraps it in South Beach Miami Moderne, and stacks it atop a blank-walled parking garage. Donald Trump will tuck a pair of gold-reflective-glass condo towers between two casinos. Van Gorp's conference room is piled with presentations from developers from as far away as New York and Australia.

The prospect of new towers blocking vistas to the celebrated Red Rocks, just west of the city, sent normally laissez-faire planners scurrying. Now the county has defined several zones where mixed-use high-rises would be permitted. "Our commissioners wanted some predictability about high-rise, high-density projects for infrastructure and service providers," explained Allison. The areas for large-scale development are nevertheless very generous, about doubling the current length of the Strip, for example, with several other nodes and corridors of development defined along the busiest arterials.

Though the new rules promote pedestrian orientation, they offer developers plenty of leeway. "We want interaction of pedestrians with buildings," said Barbara Ginoulis, the director of comprehensive planning. "But we don't require buildings to come up front. We're trying to provide as much flexibility as possible." Van Gorp, of the city, is similarly hands-off: "We don't set minimum or maximum parcel sizes. We don't have height restrictions or setback requirements or minimum or maximum floor-area ratios. How much parking you supply is negotiable." The easygoing attitude counts on competition to deliver quality—generally a dubious assumption in real estate.

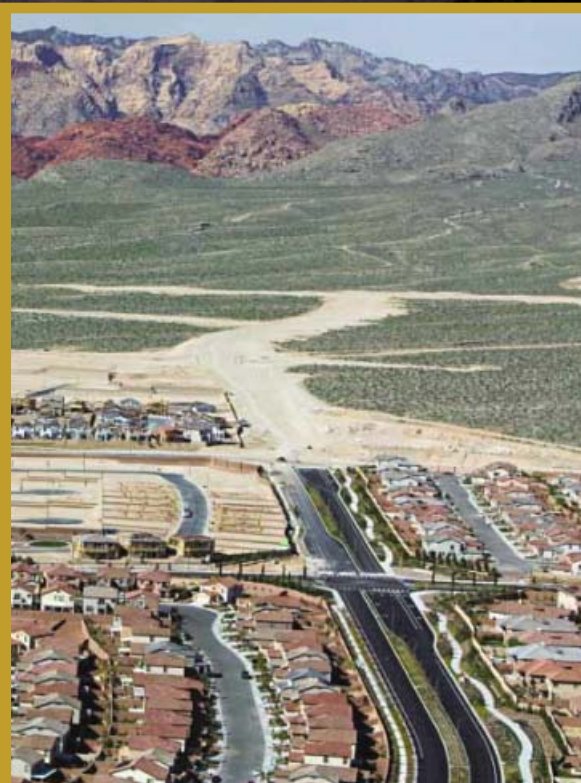
It's hard to imagine how this white-hot market will play out, especially as so many of the proposed projects have barely gotten beyond sketch stage. If interest rates rise quickly, the high-rise market may cool just as quickly as it heated up. But few people locally think it will. Such confidence derives from forecasts for ever-surging growth: 42,000 new jobs this year, according to Van Gorp, most of them in the Strip, where visitor numbers may swell to almost 40 million. The Strip economy now depends less on gaming and more on packaging gambling with shopping and entertainment. Nongaming revenues at Strip properties now out-strip gaming and are moving up.

Hypergrowth strains services and infrastructure. New schools open more than once a month yet still contend with overcrowding and long school years. Parks can't be built fast enough: One road project ends; it clogs; another begins. There are water worries and air-quality concerns (which could lead to the loss of





At the city's southern edge, the ranchettes of Las Vegas's anything-goes era are being surrounded by high-density housing (above). A beltway 15 years in construction can't keep up with growth. The frontage roads (left) will become a full-fledged freeway by 2013. Growth is heading for the treasured (and protected) Red Rocks (right).



federal transportation funds). “If you live here, it feels as if the quality of your life is always declining,” says Rothman. “Newcomers don’t experience it the same way. If you came from Oxnard, California, you find it cheaper, with less traffic. Everything is newer, shinier, and it seems more fun.”

An open-minded observer can’t fail to be impressed by the city’s can-do attitude in the face of a fast-changing and uncertain future. Of course, the city has numerous times tossed out the not-very-old for the entirely new. The Strip’s glitter may be heedlessly borrowed and nostalgic, but no one worries about its inauthenticity. Faux is the local real.

Signs of civilized life?

“There is life off the Strip!” a local declared during a conference I attended some years ago. The vast majority of the city, where most people live, can look invisible, though, because it has no expression. The neighborhood social hub, where people shop, bowl, sit down for a restaurant meal, or catch a movie, is—what else?—a unit of the Station casino chain.

In the early 1990s, a series of local public libraries were celebrated nationwide, not just because the program’s leader, Charles Hunsberger, brought in talents from all over (Antoine

Predock, Michael Graves, Meyer Scherer Rockcastle with local firm Tate Snyder Kimsey). He also made sure the designs engaged people, the sharp local light, and the rugged landscape. Hunsberger programmed space for arts organizations, even ones not yet created, knowing the community would one day want them. Politicians crusaded against the libraries’ supposed extravagance, tapping into a local ethos deeply suspicious of government. “When Hunsberger lost his job,” commented Eric Strain, a local architect, “the community pulled back in terms of making design important.” Yet the libraries remain the neighborhood’s chief assertion of a civic life apart from the Strip. Subsequent library bond issues have failed, so the older buildings’ arts spaces have largely filled with books.

A more positive attitude to public work may be developing, evident in new work at the University of Nevada Las Vegas, where Strain teaches; a federal courthouse by Mehrdad Yazdani of CannonDworsky; a new judicial center by Tate Snyder Kimsey; and an interpretive complex planned for the Las Vegas Springs Preserve, by several architects led by Lucchesi Galati. Van Gorp hopes architect selection can soon begin for a planned performing-arts center downtown.

A conventional architect-designed civic identity may not easily fit Las Vegas’s shape-shifting sensibility. “You don’t worry about the past in Las Vegas,” says Kubat. “You come here to make a future.” In interviews, I heard a nostalgia for the historically layered gentility of older, greener, less-hard-edged places. There is a perpetual consideration of whether—notwithstanding the ubiquity of female cleavage at billboard scale—Las Vegas has yet become normal. For converts, its still unformed identity exerts a powerful pull. Cities have always been the place where people could shed their old skins and become someone new, and this city’s very lack of identity makes it easy for it to reinvent itself every half decade or so. Kubat suggested that older places with a clearer identity, a layering of history, and a set way of doing things had lost an edge Las Vegas retains. “This place is very entrepreneurial: It rewards people who take risks, who make deals, who try something new.” By contrast, in Baltimore, where Kubat used to work (with RKTL), “It wasn’t easy to build if it was not a center-hall colonial.” Will Las Vegas become too normal, losing in the process its heady sense of possibility and perpetual opportunity?

California once seemed to offer the chance, Kubat added, “to start new in the orange groves.” Now the groves are gone and the state’s high costs, highway gridlock, and hassles feed a steady stream of fed-up residents to Las Vegas. People say the city won’t go the Los Angeles route, but it’s unclear how it won’t.

If you are looking for a conventional suburban refuge or an urban civility, you’ll find little of either in Las Vegas among the never-finished roads and the perpetual imploding of the old in favor of the new. The place “exudes energy and accepts anyone,” as Kubat says. The flip side is its transience, reflected in older neighborhoods rapidly filling with those who didn’t make it here, or haven’t made it yet. Schools cope with ever-shifting student populations and a high dropout rate. Adds Rothman, “For a lot of people, it’s a court of last resort. That’s motivating. But the allure of gambling, drinking—this culture of excess—exploits your weaknesses.” Pawn shops are as ubiquitous in strip malls as fast food. For better *and* worse, Las Vegas is the closest you’ll find today to the awe-inspiring chaos that accompanied the giddy growth of America’s industrial-era metropolises. ■



Growing Up

To the casual observer, Las Vegas has plenty of room to grow, but the federal government has few massive tracts to release, so developers are heading skyward. Buyers snapped up units in the gated Turnberry Place (top), along the Strip, inspiring others to go high-rise. Local officials now encourage developers to include public access. The 73-story Ivana (yes, *that* Ivana), by the local firm JMA Architecture, could be the tallest residential building west of the Mississippi River (rendering, bottom).



RENDERING: COURTESY JMA ARCHITECTURE (THIS PAGE, BOTTOM LEFT)



To keep costs down (and to limit the use of costly water), Las Vegas builders long ago abandoned the suburban norm of quarter-acre lots, even on this golf-course development (left and right). New growth occurs on ever-tighter lots (above), at up to 14 houses per acre.



An aerial night photograph of the Las Vegas Strip, showing a dense concentration of brightly lit hotels, casinos, and entertainment venues. The Eiffel Tower replica at Flamingo Las Vegas is a prominent feature in the center-right. The Strip is illuminated with a variety of colors, including warm yellows, oranges, and vibrant blues and purples. The perspective is from a high angle, looking down the length of the Strip.

View of the Strip shows
an increasingly dense
urban fabric. Cirque
du Soleil's KA (opposite)
offers another kind
of spectacle.

What's left to learn

Thirty-three years after Robert Venturi, Denise Scott Brown, and Steven Izenour shook up the architectural establishment with *Learning from Las Vegas*, no one bats an eye when some highbrow architect professes a love of the Strip. Like profanity and nudity on cable TV, the gigawatt kitsch of the nation's most famous commercial boulevard has become just another buzz in the multibillion-dollar white noise generated by our pop-culture dream machine. We live in a baroque era when companies of all kinds compete for our attention with ever-more-elaborate displays of visual, auditory, visceral, even olfactory stimulation. We've seen it and heard it all. Architects no longer dismiss the Vegas Strip; they just yawn and demand, "Tell me something I don't already know."

The latest-greatest mentality has been steadily upping the ante in Vegas for years now. Way back in 1989, Steve Wynn built the 3,000-room Mirage Hotel-Casino with a dolphin pool, white-tiger habitat, and a volcano that erupts on schedule, all for a mere \$630 million. Four years later, the 5,000-room MGM Grand broke the \$1 billion mark. And just last month, Wynn opened the doors of his eponymous gambling-and-entertainment resort, a 42-story, copper-glazed complex with 2,700 hotel rooms; luxury retailers such as Louis Vuitton, Dior, and Manolo Blahnik; a branch of New York's too-cool bistro Balthazar; and outside, a 150-foot-tall mountain with a five-story waterfall. Price tag: around \$2.7 billion.

The blurring of high and low cultures, art and commerce—a phenomenon that seems almost to define our society today—happens in Vegas with a vengeance. Think of Rem Koolhaas's Guggenheim-Hermitage at the faux-Renaissance Venetian Resort Hotel Casino. Or deluxe French chef Alain Ducasse's Mix restaurant at THEhotel at the Mandalay Bay complex. Cirque du Soleil, which started in Quebec in 1984 with a bunch of avant-garde street performers, has morphed into Vegas's reigning spectacle manufacturer, with four permanent productions in town, the latest of which, KÀ (pictured above), cost \$165 million to build and produce.

Of course, Venturi, Scott Brown, and Izenour talked about all this in their book, though the scale, scope, and intensity

really much behind the neon signs, except oceans of undifferentiated gambling space and all-you-can-eat buffet pens. Today, Las Vegas has developed its third dimension, offering fun that goes beyond the facade. In fact, the most interesting architectural experiences now occur deep within the sprawling casino complexes—in the remarkable restaurants, bars, lounges, and stores that have been designed by big-name architects from around the country. "What you find now are pockets of high design tucked inside huge buildings," says Adrian Jones, a senior



designer in the local firm Jones Greenwold Architecture. Jones, who grew up in Nevada, is part of the second generation of his family involved in the firm and is taking it in a new direction, away from suburban-developer work and into the edgier realm of attention-getting interiors.

Recently, Jones completed a very hip wine bar and store, 55 Degrees, at Mandalay Bay, which features a sleek, clear-resin tasting counter, fiberglass wine racks, and an aesthetic as crisp as a chilled Sancerre. New York designers such as Adam Tihany, Tony Chi, and Jeffrey Beers are busy doing restaurants all over town, and even major architects such as Thom Mayne have designed innovative interiors such as those for

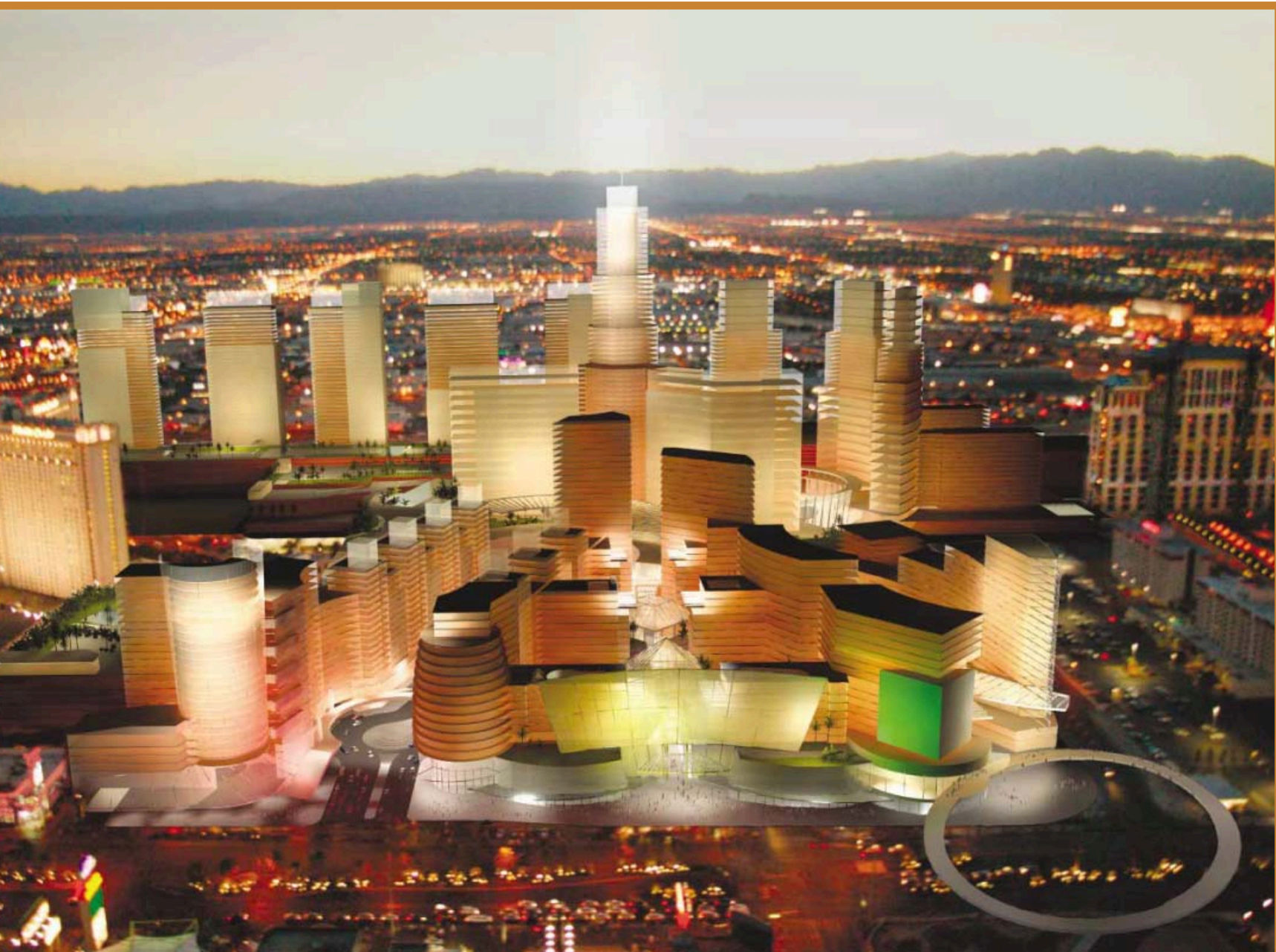
the restaurants Lutèce and Tsunami at the Venetian hotel [RECORD, September 2000, page 144]. "The theming that you saw in the 1980s and '90s is out," states Jones. "We're not doing Bellagios anymore." Instead, designers are finding inspiration in fashion, the media, and global brands such as Louis Vuitton that are using design to create modern identities, explains Jones.

This growing sophistication in taste reflects an increasingly urban environment. Thirty years ago, all of the major casinos on the Vegas Strip sat behind enormous parking lots, rising like giant drive-in movie screens to beckon motorists with flickering neon images. Today, the casinos have moved parking into garages behind the hotels and engage the glamorous street with eye-popping attractions such as exploding volcanoes, danc-

from Las Vegas?

of the sensory and cultural juxtapositions in the Vegas of 1972 pale in comparison to the experiential collage encountered by visitors today. So is 21st-century Vegas just the old one on steroids?

In some intriguing ways, the Las Vegas of 2005 has become a different beast, not just a bigger one in a glitzier costume. The Vegas described by Venturi and company was a cartoon city, its main strip a line in the desert, a scenographic procession of decorated sheds and "ducks" best appreciated in a car moving at 40 miles an hour. (As defined by the Venturi gang, "ducks" are buildings in the shape of their function, the most famous of which is the roadside store in Long Island that sells freshly killed ducks.) Back in 1972, Las Vegas was a two-dimensional experience—colorful, but flat as a billboard. There wasn't



Project CityCenter (above) promises a mixed-use neighborhood on the Strip. The monorail (left) now connects seven casinos and the convention center. Loft 5 (right), by Jones & Greenwold, will offer urban-style condos. Wynn Las Vegas (opposite, top) opened in April. Chef Alain Ducasse opened Mix (opposite, bottom) in THEhotel.



ing fountains, and battling pirate ships. People actually walk along the Strip now to catch all the free shows and then pop into a casino or shopping complex for some air-conditioning. Enjoying the view at 40 miles an hour isn't really an option anymore, since the traffic on the Strip at almost all hours is so bad. Luckily, a monorail runs for about four miles behind many of the casinos, connecting them to the convention center and offering a mass-transit option in what had been the most suburban of places. "The monorail is creating a new front door for all these casinos," states J.F. Finn, a principal at Gensler, which helped put together the financing for the private rail line and designed several of the stations. "It's going to open up a lot of development on what had been the back side of these properties," explains Finn. So the Strip is feeding growth beyond its boundaries and may become the spine of a traffic network, especially if the monorail is extended to the old downtown and the airport.

In the past, locals avoided the Strip like the plague. Hordes of overweight tourists, miles of overpriced shops, and acres of gaming tables provided plenty of good reasons to steer clear. But now a number of developers are building apartment towers either on or close to the big boulevard, betting that people want to live close to the action. In one of the biggest gambles in recent years, MGM Mirage is developing a 66-acre site on the Strip south of the Bellagio as a mixed-use "city within a city" that will feature a series of condo towers with 1,650 residences, 550,000 square feet of retail, dining, and entertainment space, and a 4,000-room casino hotel. "The idea is to build a neighborhood, a high-density urban environment with lots of pedestrian activity and outdoor spaces," says Peter Cavaluzzi, the design principal at Ehrenkrantz, Eckstut & Kuhn Architects, which is designing the master plan for the development called Project CityCenter. "We want to create a real place, not an 'attraction,'" explains Stanton Eckstut, the principal in charge of the project. "This represents a maturing of Las Vegas as a city,"

"IS THE ROWDY TOWN STUCK IN ITS URBAN ADOLESCENCE READY TO GROW UP?"

adds Eckstut. "It's about creating urban fabric and permanence." Gensler is serving as executive architect for the \$6 billion-project, coordinating the work of what it is expected will be a number of different architects designing various pieces. The developer has already signed up Cesar Pelli to do the hotel.

Who would have imagined that the designers most responsible for New York's Battery Park City would hit the jackpot in Las Vegas? Does this really mean that the rowdy town seemingly stuck in its urban adolescence is ready to grow up and behave? Well, maybe. The days when the big casinos would essentially give away food, drinks, and hotel rooms to entice people to gamble are already gone. Now the casinos are making about the same amount of money on shopping, dining, entertainment, hotel rooms, and property development as they do on gaming. "They're realizing that they're really in the real estate business," says Gensler's Finn. It's a whole new mentality that will affect all aspects of the city's built environment. What architects need to learn from Las Vegas today is how America's quintessential suburban place can go urban. ■



classic details

MODERN INSTALLATION



GRAND
AMERICA
HOTEL

SALT LAKE
CITY, UTAH

BETHEL WHITE
GRANITE



NAUVOO
TEMPLE

NAUVOO, IL

ALABAMA
LIMESTONE



90 WEST
BUILDING

NEW YORK
CITY, NY

ENGLISHMAN'S
BAY GRANITE

At KEPCO+, we specialize in the design and installation of natural stone cladding systems. Each and every project we clad is unique based on the desires of the client and the specifications of the project - no two KEPCO+ projects are the same. Whether your next project incorporates classic details or just classic style, we can help you determine the most effective and efficient cladding choice.

TO LEARN MORE, VISIT US AT AIA - BOOTH #5145



KEPCO+

Architectural Cladding Systems

www.kepcoplus.com

1985-2005
20
celebrating years

Member
MARBLE
INSTITUTE
of America

CIRCLE 104 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/
TLFe800H



Julius Blum & Co., Inc.

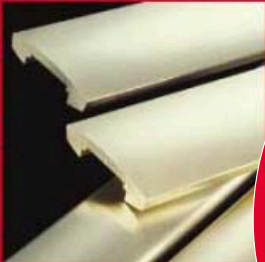
New Catalog 18 and CD Now Available!

JuliusBlum&CoInc.

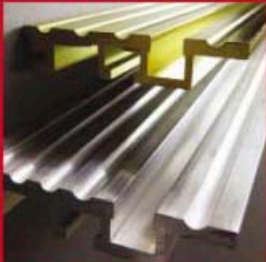
**Stock Components
For Architectural Metal Work**

Catalog 18








© 2005 JULIUS BLUM & CO., INC.

P.O. Box 816 Carlstadt, New Jersey 07072

800 526 6293

201 438 4600 Fax 201 438 6003 www.juliusblum.com






JuliusBlum&Co.Inc.'s complete line of stock components for architectural and metal work is available for immediate shipment from stock. Our new Catalog 18 and CD provide full information and CAD drawings on Glass Railing, Pipe Railing, Traditional Railing, Trellage and Ornaments, Carlstadt® System, Handrail Brackets, Elevator Cab Components, and Stock Tubing, Bars and Shapes.

Call or email us today for your free copy of our new Catalog 18 and accompanying CD to view our inventory in aluminum, bronze, nickel-silver, stainless steel and malleable iron.

JuliusBlum&Co.Inc. P.O. Box 816 Carlstadt, NJ 07072 ■ 800 526 6293 ■ 201 438 4600 ■ Fax 201 438 6003 ■ www.juliusblum.com

CIRCLE 105 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

LEHIGHTM

WHITE CEMENT

Free to visualize...

Visit our Booth #1055
at the 2005 AIA National Convention



Lehigh Cement Company/White Cement Division
7660 Imperial Way • Allentown, PA 18195
800-523-5488 • 610-366-4600

Fax 610-366-4638 • email info@lehighwhitecement.com



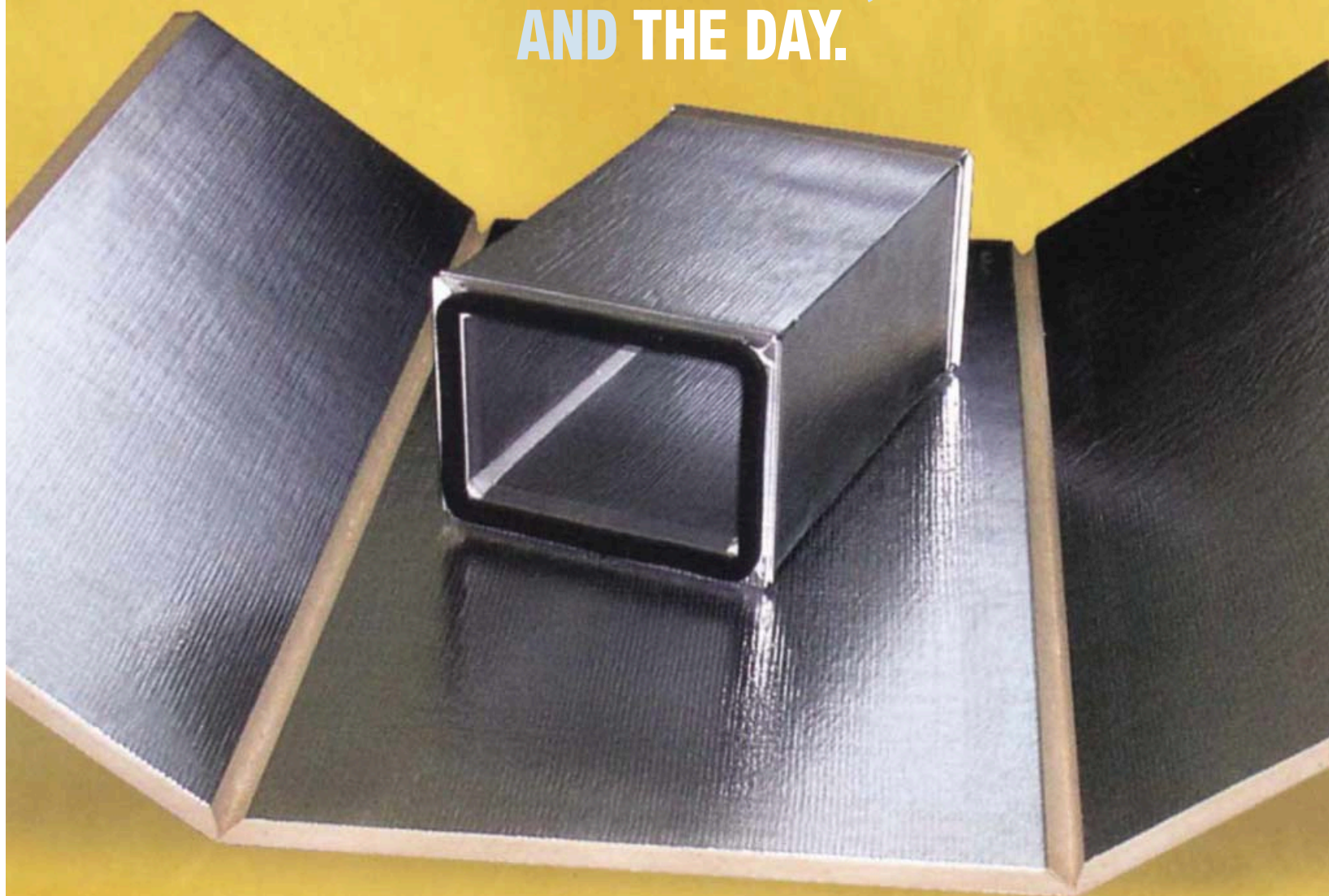
**Concrete
Thinking**
for a sustainable world



www.lehighwhitecement.com

CIRCLE 106 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

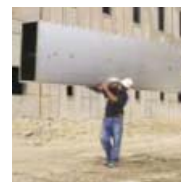
SAVES MONEY, TIME – AND THE DAY.



THE KNAUF KOOLDUCT® SYSTEM SIMPLIFIES EVEN THE MOST DIFFICULT DUCTWORK CHALLENGES.

Introducing the Knauf KoolDuct system – the phenolic foam-based, pre-insulated duct system that provides an energy-efficient, space-saving, total low-cost solution for the commercial and industrial markets. The KoolDuct system provides superior thermal performance with airtight efficiency, exceeding SMACNA (Class 6) air leakage requirements. Its sealed, aluminum-faced airstream surface is ideally suited for high specification applications. And the Knauf KoolDuct system's lightweight design helps cut installation time in half.

Stay on time and on budget with Knauf KoolDuct, a proven system that has performed in high-profile projects worldwide. For more information contact Knauf at 1-800-825-4434 ext. 8283 or visit our Web site at www.KnaufUSA.com.



KNAUF

“This is my insulation.”®

The marble-shingled skin (below and opposite) gives the building a solid appearance and belies the fact that every space is light-filled with views in all directions.



At Ohio State University, **Mack Scogin Merrill Elam's** new **KNOWLTON HALL** brings the design process to the larger academic community



By Sara Hart

Last fall, the new Knowlton School of Architecture (KSA) at Ohio State University (OSU) opened its doors to 550 undergraduate and graduate students, matriculated in three design fields—architecture, landscape architecture, and city and regional planning. The importance of this event cannot be overstated. The architecture school finally got the state-of-the-art facility that a high-profile, innovative program deserves.

The process was arduous and ambitious. Atlanta-based firm Mack Scogin Merrill Elam Architects survived the short-list judging to win the commission and was then instrumental in selecting Wandel & Schnell Architects (now WSA Studio) as its local collaborators. When the team was assembled, the challenges came into focus. The original budget couldn't accommodate the school's goals. The university initially settled for renovating the existing school and building a major addition, which would bring the three disciplines together for the first time in decades. The architects dutifully obliged with a scheme that worked well enough, but it would have produced merely an expensive compromise that would only be adequate for another 10 or so years.

So they went back to the proverbial drawing board, fortified with more money from the major donor—real estate developer and alumnus Austin E. Knowlton—and designed a 135,000-square-foot structure that consumed the entire site, which was necessary in order to absorb a hefty program—45 studios, 65 offices, computer labs, an archive, a 30,000-volume library, a 200-seat auditorium, and a state-of-the-art model shop with CNC machines for model fabrication.

The site, on the northwestern edge of the old campus, is architecturally eclectic, to say the least. Its most celebrated neighbor is the football stadium. Home to the nationally prominent OSU Buckeyes, it looms large to the west, just beyond its yawning parking lot. Across the other busy avenue to the north, the Fisher Business School occupies an earnest, vaguely Postmodern redbrick complex. Secondary borders are formed by coarse concrete parking garages to the south and low-rise laboratory buildings to the east. This edge is traversed by a major pedestrian thoroughfare that brings students close to the architecture school—a collateral benefit to the overall strategy.

Mack Scogin Merrill Elam approached this project understand-

Project: *The Austin E. Knowlton School of Architecture, Columbus, Ohio*

Client: *The Ohio State University*
Architect: *Mack Scogin Merrill Elam Architects—Mack Scogin, AIA, Merrill Elam, AIA, partners; David Yocum, AIA, project architect; Brian Bell, AIA, John Trefry, Penn Ruderman, Barnum Tiller, Cecila Tham, Jeffrey Collins, Kevin Gotsch, Margaret Fletcher, design team*
Architect of record: *Wandel &*

Schnell Architects—Robert Wandel, AIA, partner; Cissy Wong, AIA, project architect; Alan Sulser, Ivan Amy, Lannetta Vader, Yanitza Brongers Kristen Poldemann, design team
Consultants: *Lantz, Jones & Nebraska (structural); HAWA Consulting Engineers (m/e/p); Bird & Bull (civil); Wiss, Janney, Elstner (rain screen)*

Landscape architect: *Michael Van Valkenburgh Associates*
General contractor: *P.J. Dick*



The architecture school (shown in yellow at left) is sited on the northwestern edge of the old campus. This location is dramatically anchored by the OSU Buckeyes' football stadium. The building's logic is revealed by circumnavigation. The architects carved slots out of the mass to bring in natural light and create outdoor spaces. The major donor gave five enormous Classical columns to weigh heavily on one of the public spaces (right and opposite).



ing that the OSU architecture school had a mission beyond giving form to a well-respected architecture program. Robert Livesey, director of the school, wanted an open atmosphere with spaces, including the auditorium, available for use by other programs within the university. Most architecture schools don't invite the casual visitor into their cloistered confines. Unlike other disciplines, architecture generally offers instruction via the studio system—a vibrant, stressful construct that is disorderly without being disorganized. Knowlton Hall was intentionally conceived to flaunt that distinction, while simultaneously and purposefully creating a transparent environment in which the design process was constantly on view. “We wanted to make the building a model for the Knowlton School students and the university,” explains Livesey. “We wanted to show them the impact that architecture could have.”

Principal Mack Scogin admits that he packed the section. As a matter of fact, the plan, by contrast, is deceptively ordinary—orthogonal and judicious. Form and function collide in the section. The primary, ceremonial procession through the building follows gently inclined ramps. It offers views in multiple directions, which appear and disappear along the way through translucent layers or openings in the unfinished poured-in-place concrete walls and floors. Discrete spaces are formed, not so much by walls, but by solids and voids, level changes, staircases and columns, and ascending and descending ceilings. Each space is illuminated from multiple sources—skylights, clerestory windows, spotlights, and custom fluorescent light boxes.

One is tempted to invoke Piranesi when describing such complexity, but this comparison, if taken literally, suggests disorientation.

Nothing could be farther from the truth. Knowlton Hall is a lucid building. The architects focused on slicing and shearing the longitudinal section until the spaces resonated. This is what Scogin calls the “critical imperative.” He acknowledges that they resisted any inclination to create an iconic object—one that might separate the architecture school stylistically from the rest of the campus, but perhaps forfeit its potential to inspire from within.

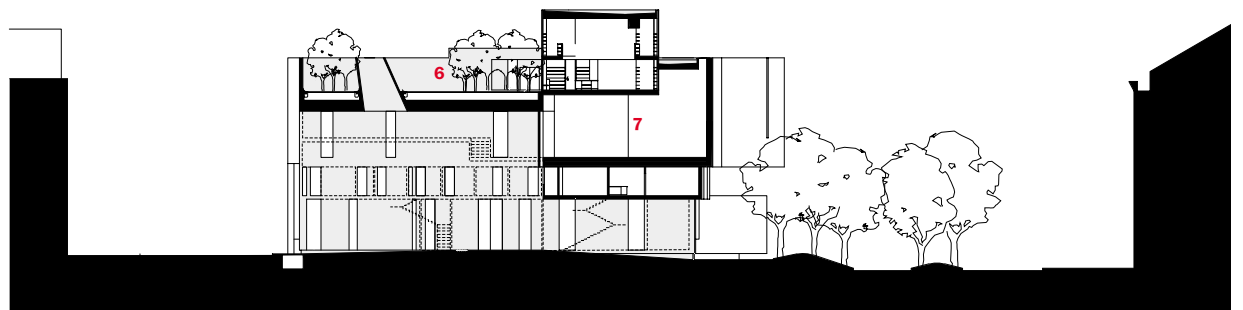
And yet, there is another reason why the architects turned inward. Rare is the commission that doesn't include odd requirements. In the case of the KSA project, the architects had to address the major donor's insistence on white marble cladding. Despite its association with permanence, marble is not a durable material, especially when applied as a thin veneer. It requires a lot of maintenance due to its susceptibility to environmental degradation. The architects offered several alternatives, but the donor remained adamant regarding the marble, even though there was no such precedent on the OSU campus. The solution was ingenious. The building is protected, hidden actually, by a rain screen, which is independent of the curtain wall that actually defines the envelope. The screen is composed of marble shingles beveled so they overlap and clip together without any caulked joints. In the event of breakage, a shingle can be easily replaced. The overall effect is an illusion of impenetrability, when the truth is just the opposite.

The university elected Michael Van Valkenburgh to landscape the perimeter. However, since the building absorbed most of the site, there was little left to landscape. “Michael had to grab the edges of the site,” explains Scogin. Indeed, Van Valkenburgh took what land was available and com-

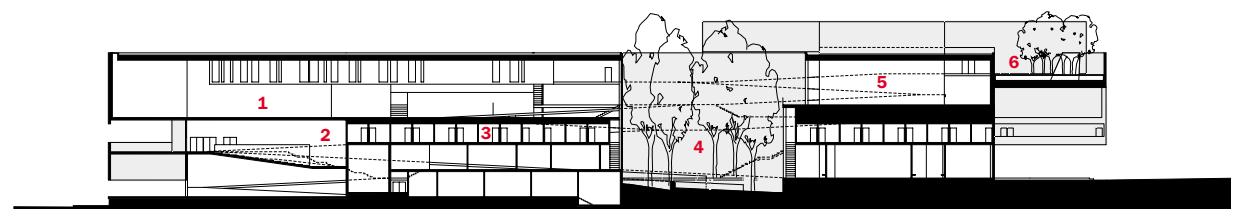




1. Planning studios
2. Auditorium
3. Faculty offices
4. South court
5. Gallery
6. Roof garden
7. Studios



SECTION A-A



SECTION B-B

0 20 FT.
6 M.

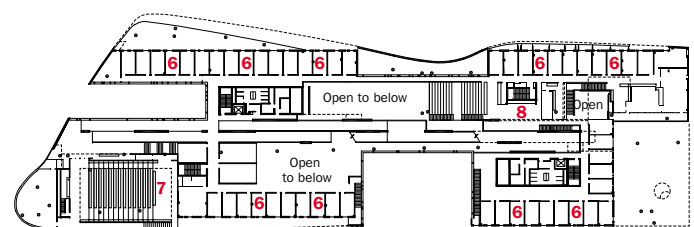
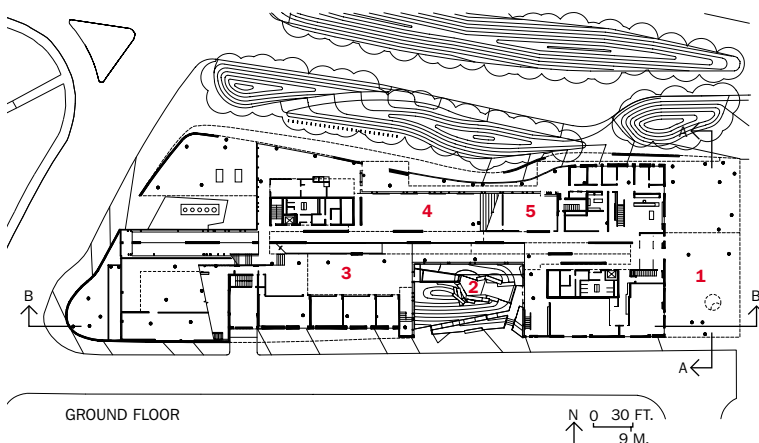
The largest of the many slots that penetrate the building encloses the south court on three sides (opposite). While dramatic, the curtain wall is in reality an inexpensive storefront system. Studios occupy a variety of spaces with views up and down into other studios, while light trickles in from all directions (right).



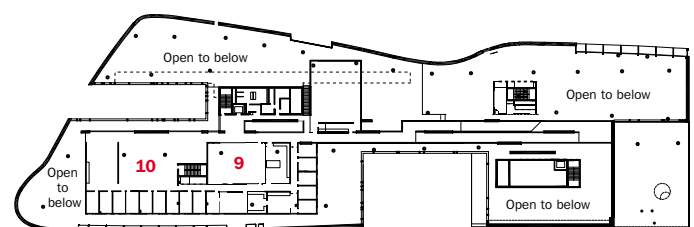


A strut supporting lighting (left and opposite, bottom) runs diagonally on the first level, linking the jury spaces on the south to those on the north (achieving in plan what the ramps do in section). It also follows one of the diagonal lines of the structural columns. The library (opposite, top) is a two-story volume with a mezzanine that can be reached either from the lower level or across bridges.

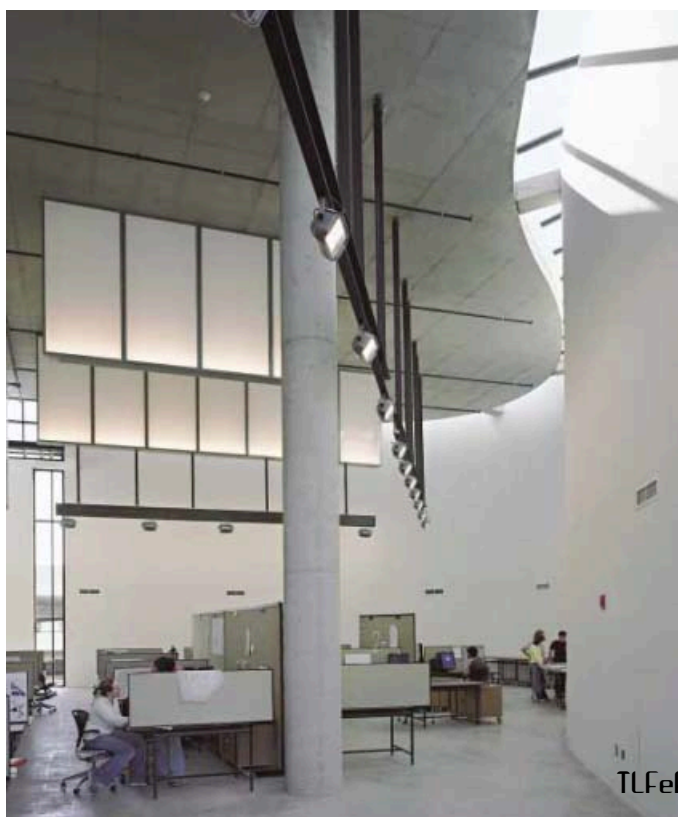
- 1. Forecourt
- 2. South court
- 3. Jury space and lecture rooms
- 4. Center space
- 5. Gallery
- 6. Faculty offices
- 7. Auditorium
- 8. Jury space
- 9. Computer labs
- 10. Planning studios



SECOND FLOOR



FOURTH FLOOR



posed a prelude to the internal experience with berms and ramps, which stand in elegant contrast to the flat hardscape of neighboring buildings. Within the exterior slots created by the building, ramps turn and rise from the sidewalk until they reach the entrance.

As commissions for building types go, the design of a high-profile, multitasking architecture school must be the most intimidating assignment for an architect, whose name will be forever attached to it. There are several architecture schools in the U.S. with impressive pedigrees, and even they aren't immune from persistent criticism. After all, the designer may have a single client, but he or she has as many critics as there are students and professors in residence. Knowlton Hall should raise the bar for architecture and campus development for the next generation. At the end of the day, it's the students who benefit most, and that's the true mark of success. ■

Sources

Rain screen: Vermont marble

Metal-and-glass curtain wall:
YKK and Centria

Built-up coal tar roofing: Kalreuth
Roofing & Sheetmetal

Posttensioning: P.T. Systems

Glazing: PPG Solarban 60

Skylights: Naturalite Skylight Systems

Elevators: Thyssenkrupp Elevator

For more information on this project,
go to Projects at

www.architecturalrecord.com.



A seemingly random pattern of windows and grills on the south facade is actually based on a repeating module over a six-part grid (this page). The physicists' offices look onto the serene south shore of Silver Lake (opposite).

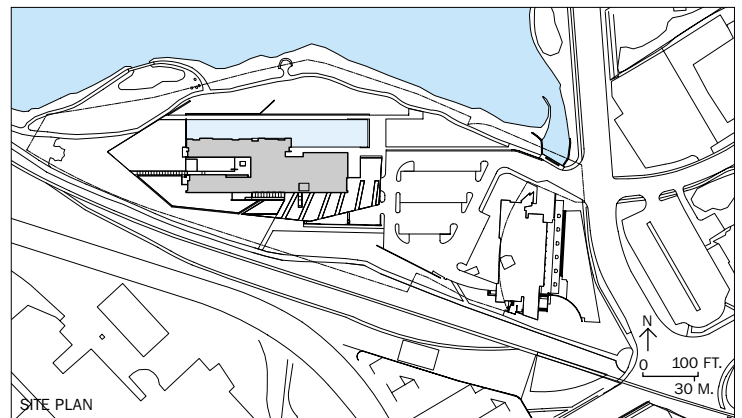
At the **PERIMETER INSTITUTE** in Ontario, **Saucier + Perrotte Architectes** pair darkness and light to celebrate the mysteries of physics



By Rhys Phillips

Twenty-five years ago, the corner of Caroline Street and Father David Bauer Drive in the small Ontario city of Waterloo was a jumble of old industrial buildings, vacant land, and railway tracks coexisting uncomfortably along the southern edge of Waterloo Park's Silver Lake. In the mid-1980s, architect Barton Myers skillfully transformed a number of 19th-century brick distilleries into the Seagram Museum, which quickly became an icon of Canadian Postmodernism and initiated a metamorphosis of the area. The museum whetted the city's interest in signature architecture, and a major competition for the Canadian Glass and Clay Gallery soon followed; the winning project by Patkau Architects opened in 1995 to critical praise. Last year's opening of the Perimeter Institute for Theoretical Physics, by Saucier + Perrotte Architectes, marks the third major architectural addition to this once-frayed boundary of Waterloo's modest commercial core. This remarkably expressive building both responds to its intriguing site and captures the institute's very *raison d'être* in built form.

Rhys Phillips has been writing about Canadian architecture for more than two decades. In 2003, he was made an honorary fellow of the Royal Architectural Society of Canada.



Project: Perimeter Institute for Theoretical Physics, Waterloo, Ontario, Canada

Architect: Saucier + Perrotte Architectes—Gilles Saucier, principal in charge; André Perrotte, project architect

Engineers: Blackwell Engineering (structural); Crossey Engineering (m/e/p); Stantec Consulting (civil); Acoustics Engineering (acoustics)

General contractor: Eastern Construction



The office bays, articulated in the vertical plane to form a unique ensemble of spaces, rest on a base of concrete supports extending from the main structure (this page).



The ambiguity of the city facade (left) was inspired, Saucier says, by the mysterious nature of physics. Black metal panels

wrap the lecture hall at the east end of the building (below left). At night, the institute shimmers in reflected light (below).



Established in 1999 by Mike Lazaridis, founder of the successful high-tech firm Research in Motion, the Perimeter Institute is a private, not-for-profit think tank that works with 28 Canadian universities to attract scientists who study cutting-edge topics in quantum physics. The client, seeking a unique building that would help lure top scholars, obtained a list of five firms recommended by the University of Toronto's school of architecture. Though the institute planned to conduct a two-stage competition of interviews followed by design submissions, they hired Saucier + Perrotte promptly after the firm's interview, pleased with its approach to the program and site.

Principal Giles Saucier recognized that Perimeter needed an ensemble of spaces that enabled both solitary creativity and group synergy. "Researchers require places of splendid isolation," he says, "but also comfortable places to make contact, both formally and informally." Such a dichotomy also exists at the building's site, which sits between the quiet realm of the lake and park and a more active sphere of urban movement. Saucier wanted the scientists to be engaged with both of these external worlds, as well as with each other.

Early in the design process, Saucier attended a lecture—largely incomprehensible to him, he laughingly notes—that explored the complex synaptic connections within the brain. As he listened, he drew the

lines of this connection, which in the building became physical representations of changing perceptions. But landscaping came first. The institute is built on top of an old waste-disposal site, so the architects couldn't excavate a foundation. "We started by drawing a single line representing the division between the site's two worlds," says Saucier. This line was then extrapolated to create what Saucier calls "an erupting ground plane," where the earth appears to have been peeled back, forming a landscaped berm on the north portion of the site and a grass-topped podium on the south side. These forms are defined further by raw, imposing concrete walls. Along the lakeside to the north, the wall holds back the berm and shelters a large reflecting pool and terrace, while from the cityside, visitors must penetrate the powerful wall and podium to reach the south entrance.

Into the trench formed by the berm and podium the architects placed a concrete-framed structure on a pad at grade: two slim, parallel office and administration wings, fully glazed along their facing facades and connected at the east end by a perforated black metal box that appears to float on a first story of highly transparent glass. Through this glass, a 205-seat lecture hall, elegant in its rich simplicity, is visible. A glass-roofed atrium, filled with northern light, sits between the office wings and the lecture hall. At the mezzanine level, the atrium opens onto



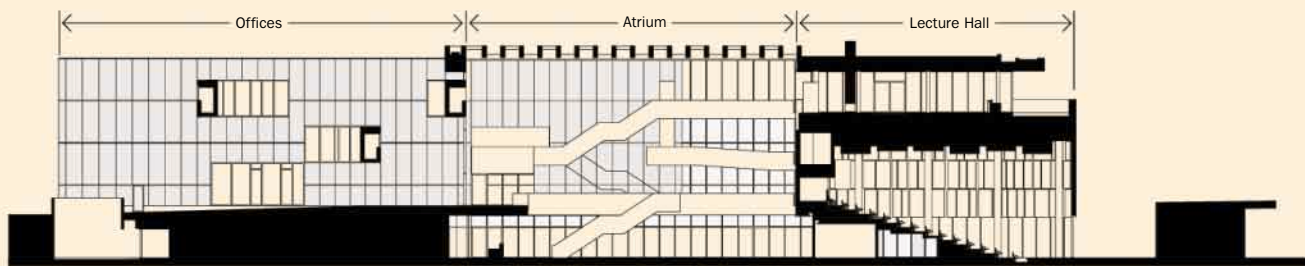
The courtyard that separates the physicists' offices wing from the administrative wing (left) is spanned by footbridges that encourage casual interaction and emphasize exterior views of the lake and the city. The north entry sequence along the lecture hall and reflecting pool provides a contemplative path into a building designed for big thinkers (below left).



a grassy courtyard and reflecting pool, giving the space a piazzalike feel.

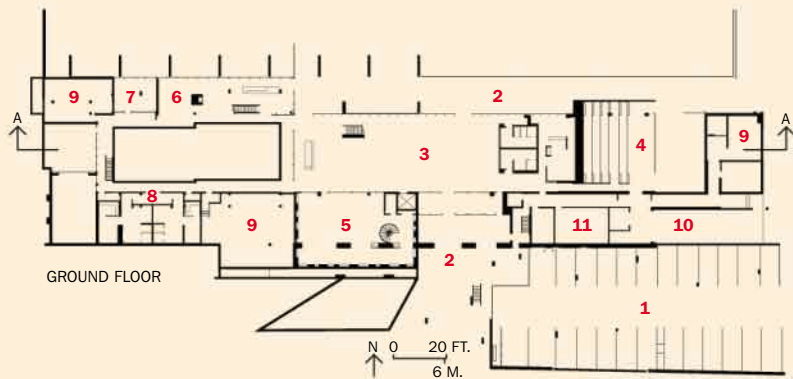
The building's south elevation, a three-level facade clad in anodized aluminum and punched and dented with a pattern of windows and highly polished stainless-steel mechanical grills, presents the city with an abstracted image that reflects the enigmatic world of physics itself, yet is open enough to invite exploration. Three slightly extruded boxes mark interior passages that become bridges spanning the courtyard, eventually emerging out the north elevation. The bridges emphasize a telescopic contact with the landscapes to the north and south, and also serve as informal spaces for conversation. The north facade on the park, which stands in contrast to the institute's city face, comprises a transparent series of extruded zinc-and-glass boxes containing private offices for the physicists. These offices were kept simple, quiet, and unadorned, with one side wall of concrete and the opposite wall a floor-to-ceiling blackboard.

Like science itself, the building's layers open up to reveal relationships that might seem obscure from a distance. Interior spaces are remarkably lucid, and the circulation provides a continual interplay of visual connections with the city, park, and lake, as well as within the building itself. Cool, crisp materials—such as clear, fritted, and reflective glass, as well as metal and concrete—are warmed with touches of rich

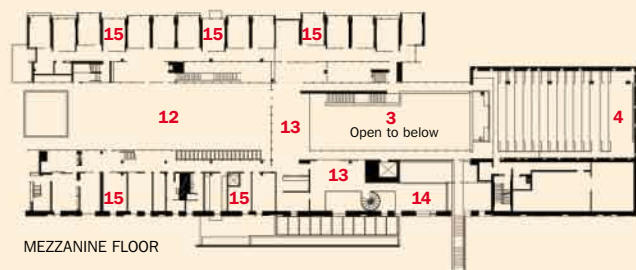


SECTION A-A

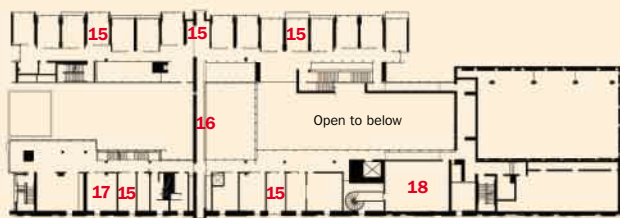
- | | | | |
|-------------------|-------------------|------------------|------------------|
| 1. Parking | 6. Lounge | 11. Storage | 16. Footbridge |
| 2. Entry | 7. Gym | 12. Courtyard | 17. Meeting room |
| 3. Central atrium | 8. Changing rooms | 13. Mezzanine | 18. Seminar room |
| 4. Lecture hall | 9. Mechanical | 14. Reading room | 19. Café |
| 5. Library | 10. Loading dock | 15. Office | 20. Kitchen |



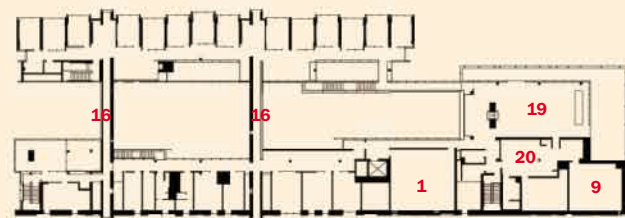
GROUND FLOOR



MEZZANINE FLOOR



SECOND FLOOR

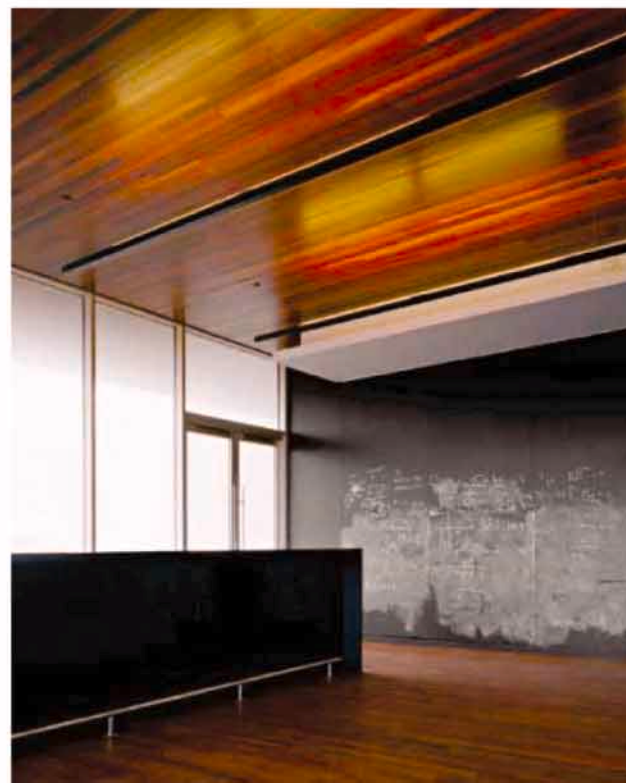


THIRD FLOOR

The institute's scholars gather frequently in the high-ceilinged lecture hall (near right), where layers of wood improve the acoustics and warm the walls of concrete and glass. Each physicist's office has a floor-to-ceiling blackboard for scribbling notes and working through proofs and theories (far right).



TLCFeBOOH





wood, such as white oak and Brazilian ibe.

If there's a weakness to be found, it's with the entry sequences. The stark simplicity of the south entry, and its immersion in deep shadow, are intended to provoke a sense of mystery and hence public curiosity. Unfortunately, this approach is virtually lost to the urban context because of the railroad tracks that cut off the building from the street. Therefore, most people enter into the atrium on the north side. The walk to this entry is a sensory delight, taking one through the berm and past the glazed lecture hall and reflecting pool. But the parking lot from which it originates is a rude interjection between the institute and the finely articulated west facade of the neighboring Glass and Clay Gallery.

Despite these drawbacks, the Perimeter Institute succeeds in its mission. It's not only a protected space for high-level thinking; its adroit siting and provocative juxtaposition of materials promote dialogue, both within its walls and with the public, about a world few of us readily grasp. ■

Sources

Metal/glass curtain wall: Fulwal;
VM Zinc; Ontario Panelization;
Merit Glass; Roof Tile Management
Aluminum windows: Fulton
Glazing: Trulite; Viracon; Preco

Skylights: IBG Canada

Auditorium seating: Irwin

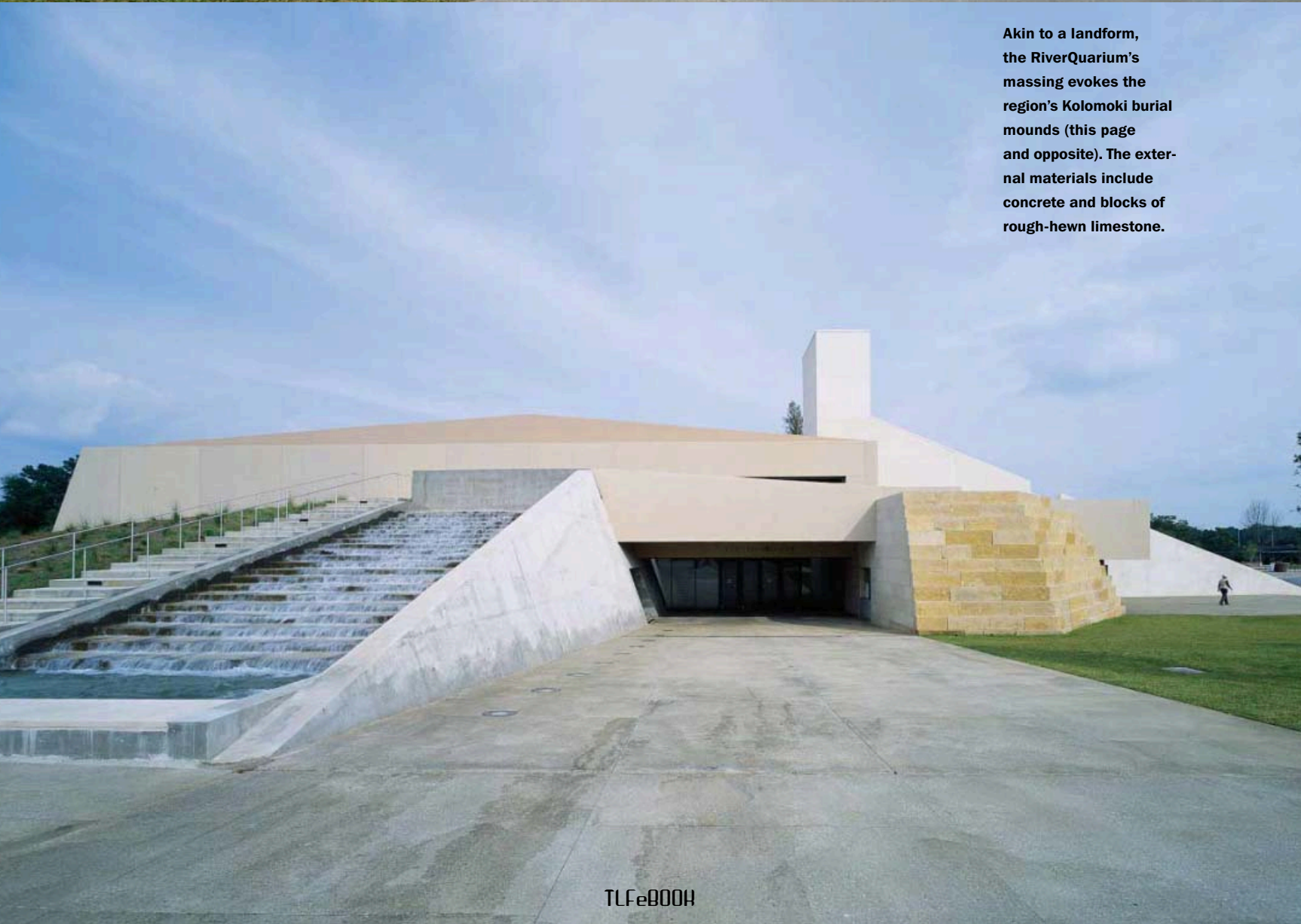
For more information on this project,
go to Projects at
www.architecturalrecord.com.



A series of zigguratlike concrete stairs appear to float against the opalescent glazing along the corridors of the office wings (opposite, top and bottom). An assemblage of black metal panels form another focal point in the atrium, like an abstract work of art (this page).



Akin to a landform, the RiverQuarium's massing evokes the region's Kolomoki burial mounds (this page and opposite). The external materials include concrete and blocks of rough-hewn limestone.



After torrential floods, Albany, Georgia, reinvents itself with a centerpiece by **Antoine Predock**: a **RIVERQUARIUM** celebrating local aquatic culture

By Sarah Amelar

The site's at one of those weird crossroads where Smalltown, U.S.A., meets a powerful natural system," says architect Antoine Predock, FAIA, of his recently completed Flint RiverQuarium, a building that mediates between the city of Albany, Georgia, and the abundant water flowing through it. The curious juxtaposition of modest urbanism with undisturbed aquatic ecology has played an essential role in this town of not quite 100,000 people, 85 miles north of Tallahassee, Florida—even as the relationship between municipality and river fluctuated over time.

An asset and occasionally a source of ruin, the Flint River originally attracted the area's native Creek Indians, who settled along its banks. In 1836, the same 350-mile-long water course inspired Nelson Tift to launch a river freight business here, founding the city, which he named after the then-bustling trade center of Albany, New York. But low water and sandbars ultimately impeded steamboat navigation, and by the turn of the last century, this southwestern Georgia town had switched its cargo traffic from river to rail. Though years later such heavy-hitting companies as Proctor & Gamble, M & M/Mars, and Merck set up manufacturing centers in the small city (and still operate there), the river remained largely ignored, escaping the abuse suffered by so many other waterways. Then, in 1994, a disastrous 500-year flood, and in 1998, a torrential 100-year flood, surged into Albany, turning local attention back toward the Flint.

"Our future is riding on the river," reads the slogan for the downtown revitalization campaign that emerged in the wake of the great deluges. With ambitions to reroute streets and create parks, trails, housing, a conference center, a hotel, museums, historic sites, and more, the master planners felt they needed a "magnet or signature building to make Albany a destination," says Thomas Chatmon, Jr., president and C.E.O. of Albany Tomorrow, Inc. (ATI), the public-private enterprise overseeing this urban revival. "But what sort of building would be authentic and really about us? A place about the river itself," he concluded, envisioning a nature center focused on local aquatic ecosystems. With \$15 million (later reaching \$26.8 million) in state funds for the RiverQuarium's design and construction, ATI promised to create a center that would never draw on public funds for its operation and survival.

A search for an architect of international stature led to New Mexico-based Predock, who had previously designed nature centers, though not aquariums per se. "Antoine came to the initial interview with just a wealth of information about the hydrology, geology, ecology,



archaeology, history, and especially the Native American culture of this area," recalls Chatmon. "It blew us away."

Predock promptly secured the commission and embarked on further explorations of the river and its surroundings, some of which led to the region's Kolomoki burial mounds and Blue Holes. Kolomoki mounds, the archaeological remains of local tribes, would inspire the building's external form, drawing on what the architect describes reverentially as "big, mute landforms rising from the ground."

Blue Holes, a natural phenomenon of southeastern Georgia and northern Florida, would also profoundly influence the concept of RiverQuarium that Predock and his collaborator, Boston-based exhibition designer Frank Zaremba, AIA, of Lyons/Zaremba, formulated. A Blue Hole develops when an underground limestone substrate collapses, allowing aquifers, or subterranean springs, to well up and fill the large cavity. At a constant temperature of 68 degrees Fahrenheit, typically cooler than the surrounding air, the collected water creates a microclimate for aquatic and plant life. Many aquifers lie beneath Albany, feeding its farm crops and manufacturing plants. But the visible aquifers, the Blue Holes, are what inspired the sacred Creek Indian idea of "skywater,"

Project: Flint RiverQuarium, Albany, Georgia

Architect: Antoine Predock
Architect—Antoine Predock, FAIA,
design principal; Sam Sterling, AIA,

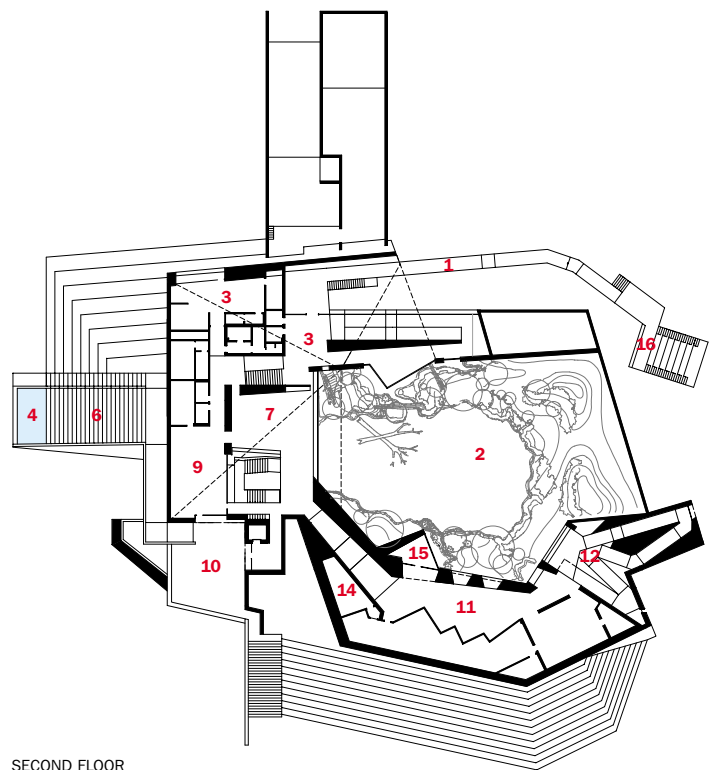
executive senior associate; Geoffrey Beebe, AIA, senior associate; Stuart Blakely, associate

Exhibit design: Lyons/Zaremba

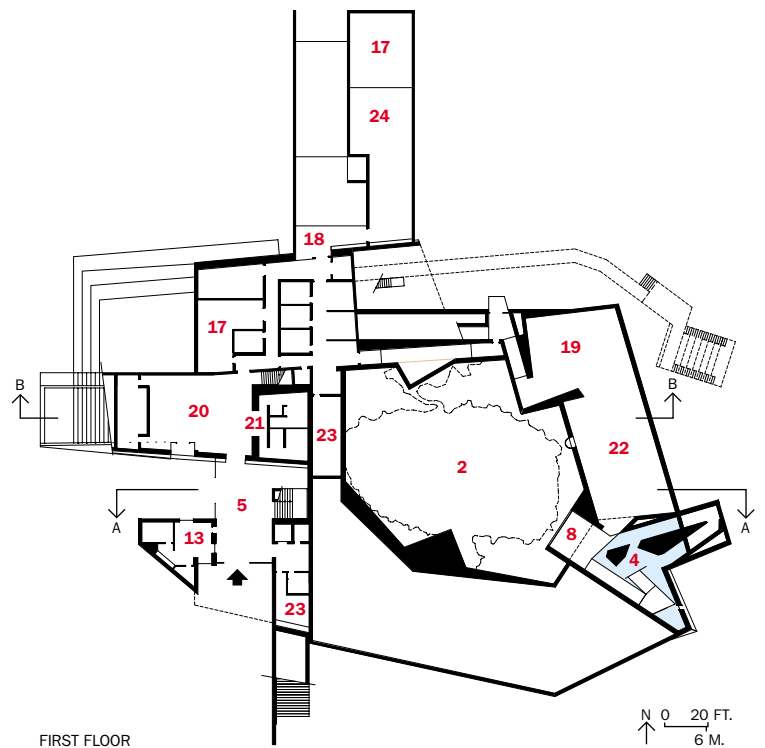
Architect of record: RBK Architects

A curtain wall with structural glass fins instead of mullions permits unbroken views out from the Skywater room and stair (this page) to the Blue Hole and river beyond.





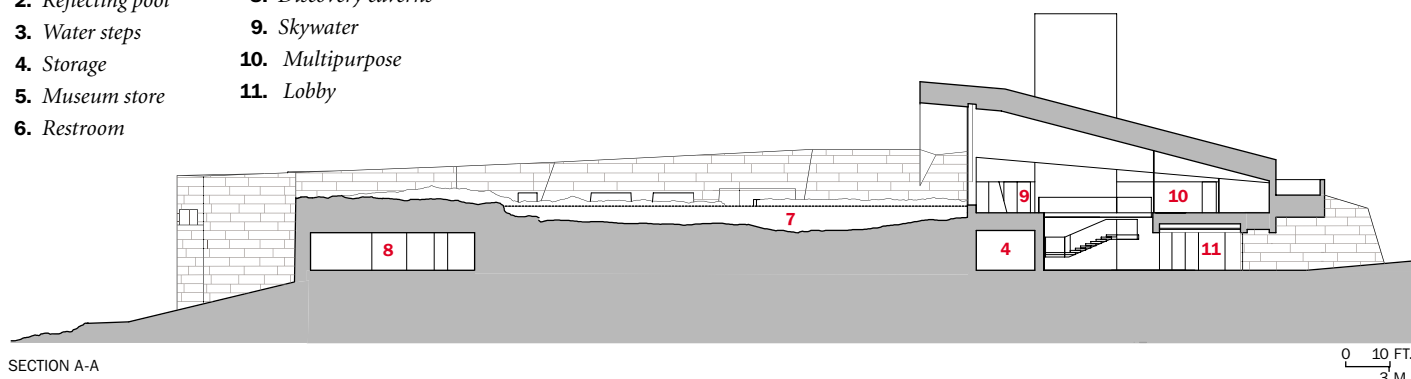
SECOND FLOOR



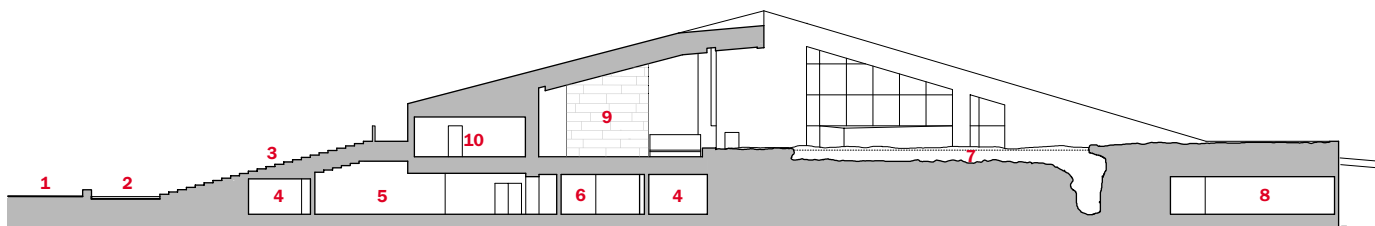
FIRST FLOOR

- | | | |
|-----------------------|-------------------------|----------------------------|
| 1. Walkway to river | 9. Multipurpose | 17. Mechanical |
| 2. Blue Hole | 10. Terrace | 18. Loading dock |
| 3. Curatorial | 11. Flint River gallery | 19. World of Water gallery |
| 4. Reflecting pool | 12. Blue Hole ramp | 20. Museum store |
| 5. Lobby | 13. Ticketing | 21. Restrooms |
| 6. Water steps | 14. Audiovisual | 22. Discovery caverns |
| 7. Skywater | 15. View deck | 23. Storage |
| 8. Blue Hole aperture | 16. Amphitheater | 24. Blue Hole life support |

1. Plaza
2. Reflecting pool
3. Water steps
4. Storage
5. Museum store
6. Restroom
7. Blue Hole
8. Discovery caverns
9. Skywater
10. Multipurpose
11. Lobby



SECTION A-A



SECTION B-B



Ramps and stairs threading through the RiverQuarium lend the journey sectional complexity, yielding views of the Blue Hole from various levels and vantage points, including underwater (near left) and above the pool (opposite and far left). Convincingly naturalistic, the man-made Blue Hole was planted with live vegetation that undergoes cycles of seasonal change.

describing the natural pools that appear blue, as if capturing a piece of the sky. The concept captured Predock's imagination.

With no Blue Hole on his riverfront site and the threat of floods making it technically impractical to route the Flint through the building, the architect created a 12,000-square-foot artificial Blue Hole at the center of his structure—as if the RiverQuarium had risen around an untamed condition.

“To shield the inner experience of water [at the heart of the building], I thought of the exterior as an almost blank, yet mute and powerful, wrapper,” says Predock. From outside, the structure's windowless triangulated forms rise toward its center, recalling an ancient burial mound. On one side, water flows over a run of stairs, creating a gently inclined waterfall. Outer walls of cast concrete and stepped ramparts of massive limestone blocks—rough, as if cut directly from the riverbed—enclose the structure, revealing just a hint of the Blue Hole: tall trees poking above the roofline.

At first glance, the RiverQuarium's massing, with its convergence of triangular volumes, bears a striking, almost déjà-vu resemblance to some of Predock's earlier public structures, including the Tang Museum in Saratoga,

New York [RECORD, May 2001, page 224], and the Spencer Theater in Ruidoso, New Mexico [RECORD, May 1998, page 152]. The architect attributes any apparent similarities to his affinity with Mayan ruins and other mound cultures of North America—to his fascination with “tilted planes as displaced land and a trajectory connecting earth and sky.” But, he asserts, each of these buildings has a unique relationship to its site: Whereas the Tang provides horizontal vectors, drawing together disparate parts of a college campus, and the Spencer echoes the form of the mountains behind it, the RiverQuarium “hunkers down into the earth and gazes out toward the river.”

Partially burrowed into the site, the 38,000-square-foot interior offers a strong sectional experience of descent, a journey that actually begins with an ascent to the chapel-like Skywater room. Completely free of interior exhibits, this generous space focuses visitors' attention outdoors on the reflective surface of the Blue Hole (filled with 175,000 gallons of water) with its live vegetation that changes seasonally, and the river beyond it. The building, an irregular U, embraces its Blue Hole, which lies open to the sky. The eye takes in the man-made body of water and the larger natu-



ral one as a continuum. A structural-glass curtain wall—with clear glass fins rather than mullions—allows for uninterrupted views.

After seeing the Blue Hole from above, visitors continue down the interior's main path, a circle with ramps descending below the water level. Here, through glazing, the water appears as a lens to the sky, visually merging aquatic and heavenly realms. The underwater habitat reveals an array of fish, plant life, amphibians, insects, and reptiles (including alligators). "Instead of making a box with aquarium windows," says Predock of his work with Zarimba, "we wanted to engage the public spatially with the exhibit." The passage through the dimly lit interior leads through a cavern and fish hatchery (with some exhibits achieving more spatial, interactive, and experiential qualities than others). Finally, the circle ascends back to Skywater.

The exhibits are already a big hit with children, many of whom press their faces against the glass. From the building's exterior, the waterfall, steps, and ramping planes—all evoking a landform—also invite their participation (but the museum administrators, perhaps fearful of liability, have sprinkled the structure's perimeter with "No Climbing" and "Keep Off"

signs). Parents and teachers appear, pulling back toddlers as they gleefully reach for the water. The temptation would have been even greater if value engineering had not eliminated the canted water wall (beside the water stair) and sod roof (or field in the sky) that the architect had originally planned. But surely enough remains of the overall intent to excite young visitors.

As the town continues to realize its master plan—including a park honoring Albany native Ray Charles—the RiverQuarium evolves as a work in progress. Its adjacent aviary and riverview amphitheater, both outdoors and designed by Predock, are yet to come. Rooted in a private endowment now exceeding \$4 million, the Blue Hole already grows thick with vegetation that evolves with the seasons—all set to bloom in vivid color each spring. ■

Sources

Structural glass curtain wall:

Innovative Structural Glass

Water steps: *Hall Fountains*

For more information on this project, go to Projects at

www.architecturalrecord.com.



Polshek's new expansion to Harrison & Abramovitz's undulating concrete-paneled Hall of Science (opposite, top and bottom) juts out to the north (below). A drum attached to the rear of the wedge-shaped hall (above) seems to float over the glazed ground floor.



Polshek Partnership's expansion brings vitality and new life to the **HALL OF SCIENCE**, in a 1964 World's Fair building, in Queens, New York

By Suzanne Stephens

It's not easy to make something exciting out of leftovers. Especially unappetizing are some of the architectural remains from the New York 1964 World's Fair in Flushing Meadows-Corona Park, Queens. The few buildings that were constructed on a permanent basis have been moldering for the past 40 years, as if waiting for Disney. Now at least the Hall of Science, designed by Wallace Harrison of Harrison & Abramovitz, has been turned into architectural haute cuisine with a spirited expansion by Polshek Partnership.

Although Wallace Harrison had famously designed the futuristic Trylon and Perisphere for the 1939 World's Fair on the same site, his 1964 structure received negligible attention. The problem may have been due to the lack of critical acclaim for the World's Fair in general: Under the leadership of the indomitable planner, Robert Moses (nicknamed "Fair Fuhrer"), the 1964 exposition lacked the innovative aura of its predecessor. Yet the Hall of Science—structurally and spatially—was unique, owing to its 80-foot-high undulating wall of tan poured-in-place concrete coffers. Moreover, the 5,400 coffers are filled with hand-faceted shards of cobalt blue glass held in a concrete matrix. The interior of the free-formed cellular concrete space of the Great Hall, as it is called, glows eerily, much like a cathedral designed by August Perret. This serpentine tower, now used for temporary video exhibitions, rises from a hexagonal base where permanent science exhibits are displayed within the articulated, muscular spaces of the exposed poured-in-place-concrete structure.

In its quest to bring the Hall of Science into the 21st century, New York City's Department of Design and Construction, working with Hall of Science director Alan Friedman, hired Polshek Partnership to expand its display, service, and administrative spaces for \$55 million. Just a few years back, in 1996, Beyer Blinder Belle had already added a main entrance rotunda and an egg-shaped auditorium to the original structure.

The approach that Polshek's design partner Todd Schliemann adopted was to play up the opposing characteristics of the Great Hall and



what Polshek dubbed its "Hall of Light." Whereas Harrison's vertical, undulating, opaque concrete wall looms sinuously over the immediate skyline, Polshek's 55,000-square-foot expansion features an angular wing shooting out horizontally some 55 feet to the north. While the walls of the Great Hall are dense and dark, with blue translucent panes, the Polshek wing, a wedge wrapped in lightweight translucent fiberglass panels, is perched atop a clear, glazed base. The Harrison structure, opaque from without, glows mysteriously inside during the day; Polshek's interior, brazenly light by day, glows phosphorescently at night. Harrison's space is abstract and scaleless; the Polshek wing, with its complement of variously sized Modernist elements, imparts a sense of human scale. As if deferring to the circular forms of Beyer Blinder Belle's entry portion, Polshek designed a two-story, stuccoed-wallboard drum to the rear of its complex. Housing temporary exhibitions, this windowless gallery rests on a clear glass base reserved for offices.

Since the Hall of Science is geared primarily to school children and families, Friedman

wanted to make sure that the building would not overwhelm its visitors. He had seen Polshek's acclaimed Rose Planetarium at the American Museum of Natural History in New York but didn't want such a grand, awe-inspiring space in his Queens science center: Harrison's Great Hall, which is used for temporary exhibitions, did that. The new addition should show that "science was not strange and fearful." But, he notes, "The building should be exciting, technologically innovative, and draw us into it."

Project: Hall of Science, Queens, N.Y.

Architect: Polshek Partnership—

Todd H. Schliemann, design partner;
Joseph L. Fleischer, management partner;
Don Weinreich, project manager;
V. Guy Maxwell, project architect

Owner: N.Y.C. Department of Design

and Construction; Department of Cultural Affairs; New York Hall of Science

Engineers: Leslie E. Robertson Associates (structural); Flack + Kurtz (m/e/p, fire, security); El Taller Colaborativo (civil); Langan Engineering and Environmental Services (geotechnical, environmental)

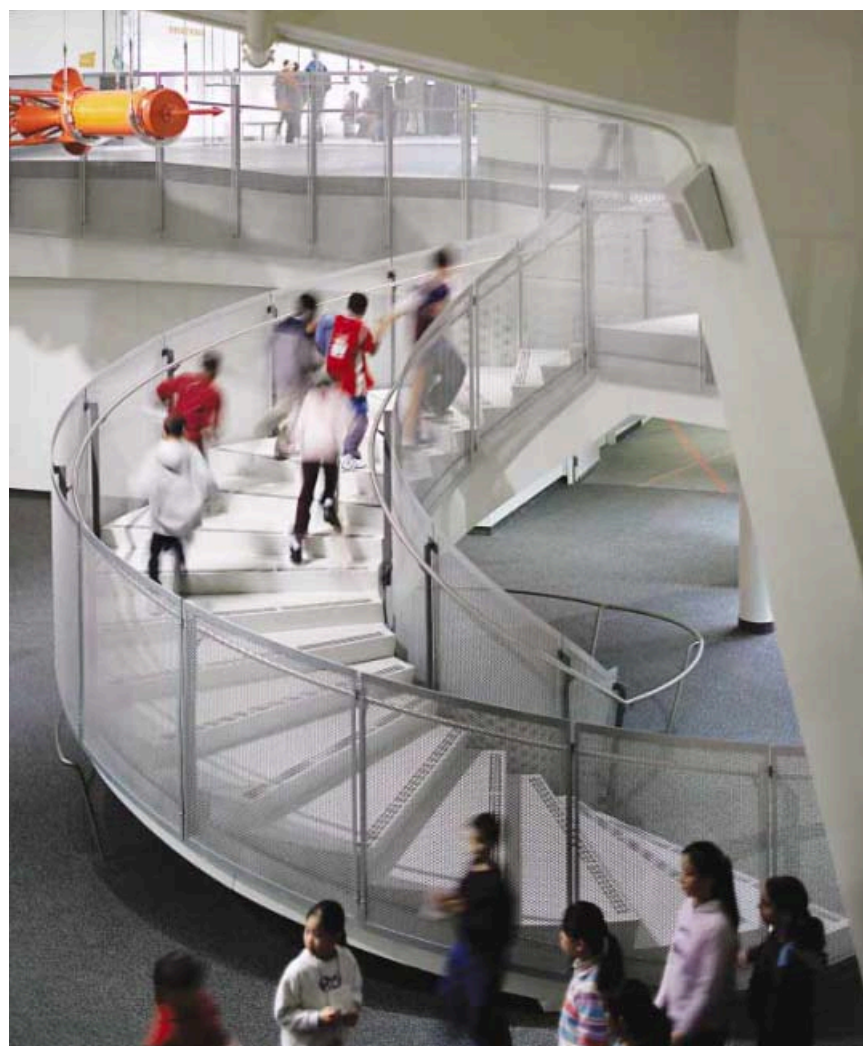


Curvilinear stairs with perforated-steel balustrades encourage the visual and physical link between old and new spaces. Visitors approach the stair and mezzanine (left) from the old core, now called the Central Pavilion. The lower floor of the Central Pavilion is linked to this area via a new steel-and-concrete spiral stair (below).

Stitching together Harrison's bold base and tower with Beyer Blinder Belle's circumspect entry piece and Polshek's energetic expansion was not easy. The Polshek-designed lobby stretches from the Beyer Blinder Belle rotunda to the new gallery, allowing visitors several routes of entry: via the rotunda and the old, windowless hexagonal exhibition space underneath the Great Hall, or straight on to the Polshek wing. For those entering the wing through the hexagonal space, Polshek inserted a steel-and-concrete spiral stair that connects this subterranean area to a new mezzanine from which the visitors are drawn by another arcing stair up to the main gallery on the second floor. As Schliemann explains, "We want to choreograph the movement upward and outward, from dark to light."

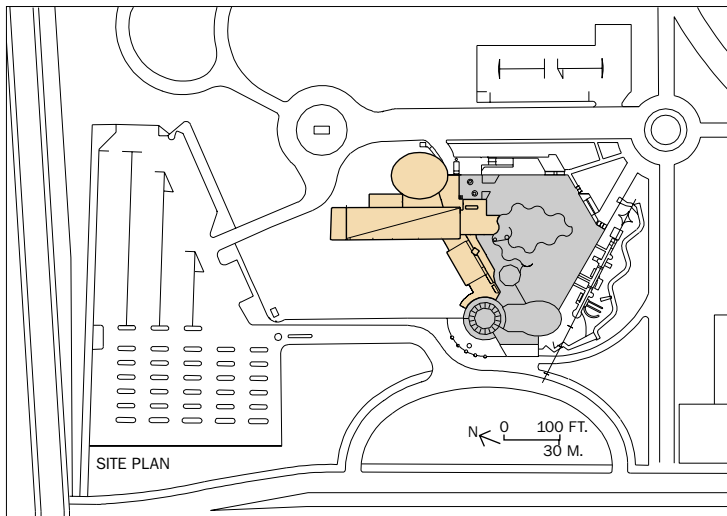
The structure of the new wedge-shaped hall "explores the morphology of force and form," says Schliemann, referring to the compressive and tensile forces of the 11 trusses that dominate the hall's basic armature. The king-post trusses follow a staggered formation to create a ridgeline running diagonally from the southeast corner of the roof to the northwest one at the hall's far end. The steel skeletal structure of beams, vertical posts, and steel tension cables creates an animated space: The walls, with flared steel columns tilted at an obtuse angle to the floor and diagonal steel cables to keep the structure from racking, further bolster the dynamism of the whole. Wrapping the roof and walls of this frame is a light, translucent, fiberglass skin. The cells of the Kalwall system, with insulation between the membranous sheets, rely on an internal aluminum grid for stiffness. In turn, they form panels about 5 feet wide and about 11 feet high, which are attached to battens to create the building envelope. "We have taken a material that is typically used as infill and turned it into a skin wrapping the walls and the roof," says Guy Maxwell, the project architect.

Within this vigorously engineered space, visitors, usually of school age, interact with the various science exhibits and often receive extemporaneous instruction from student volunteers. At the far end of the gallery, a sitting area under a large glass installation by James Carpenter leads to another stair and the first level of exhibits, plus the Science Access Center, or library.

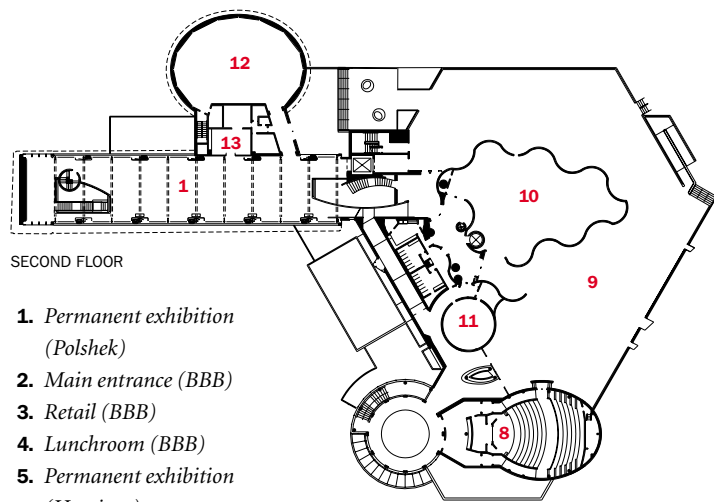
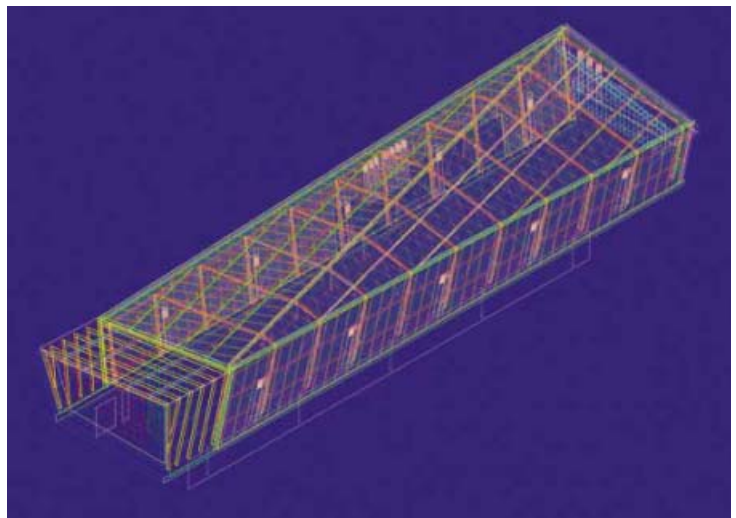


From the ground floor of the new wing, visitors can take the stair to Harrison's Great Hall or proceed straight ahead to the mezzanine overlooking the permanent gallery underneath.



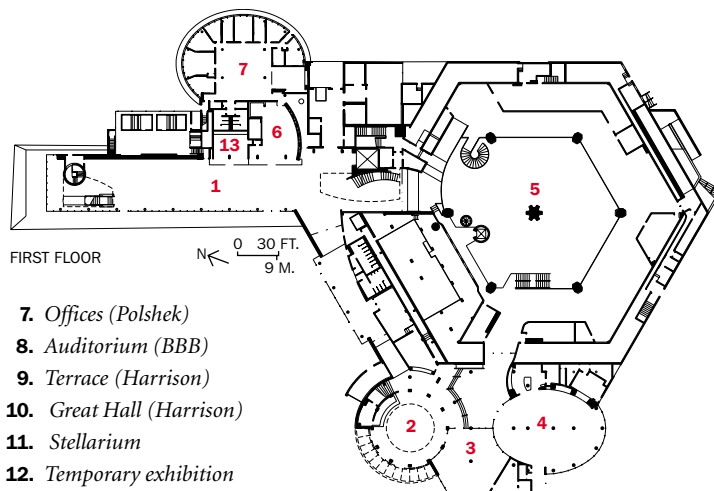


The upper level of the new wing (top right) features a series of staggered king-post trusses designed with a diagonal ridgeline that moves from one corner of the wedge to the opposite corner at the far end (diagram, right).



SECOND FLOOR

1. Permanent exhibition (Polshek)
2. Main entrance (BBB)
3. Retail (BBB)
4. Lunchroom (BBB)
5. Permanent exhibition (Harrison)
6. Science Access Center (Polshek)



FIRST FLOOR

7. Offices (Polshek)
8. Auditorium (BBB)
9. Terrace (Harrison)
10. Great Hall (Harrison)
11. Stellarium
12. Temporary exhibition (Polshek)
13. Discovery Lab (Polshek)

Judging from the extraordinary response of the young audience, the open laboratory concept seems to communicate the accessibility of science amazingly well. Friedman notes that he particularly likes the visual connections the architects established from space to space and level to level. The knitting of the old and the new sections of the science center appears to function smoothly, although the circulation path established in entering the building through the Beyer Blinder Belle portion now seems a bit circuitous. This brings up another problem: While the Polshek contribution succeeds especially well as an expressive architectural statement about how to add onto the Harrison building, Beyer Blinder Belle's architecture doesn't quite fit into the new mix. Its presence remains troubling, whereas the imaginative balance of opposites between Harrison's and Polshek's efforts—both based on walls of “cells”: one organic, concrete, and dense; the other, angular, translucent, and lightweight—maintains a spirited architectural dialogue. The Polshek Partnership has taken the leftovers from Harrison's almost-forgotten scheme for the World's Fair and infused them with an élan that allows the identities of both to remain intact, even if the entire ensemble doesn't quite hang together. ■

Sources

Fiberglass sandwich panels for wall and roof: Kallwall

Curtain-wall and storefront systems: EFCO Corporation

Glass: Viracon

Roofing: Johns Mansville

Metal ceilings: Hunter Douglas

For more information on this project, go to Projects at

www.architecturalrecord.com.



In the upper level gallery, students can interact with exhibits in a luminous setting where walls and roof are wrapped by

insulated translucent fiberglass panels. Vertical ducts for cooling and ventilating stand along the perimeter of the hall.

TO EVERY DESIGN, THERE IS TERRAZZO



Terrazzo is highly praised throughout the flooring industry for its durable nature and cost-effective lifecycle. Choosing to work with terrazzo opens an infinite number of design opportunities and the diverse color palette will truly inspire all.

Terrazzo — a floor that truly performs!

Contact us at: 1.800.323.9736

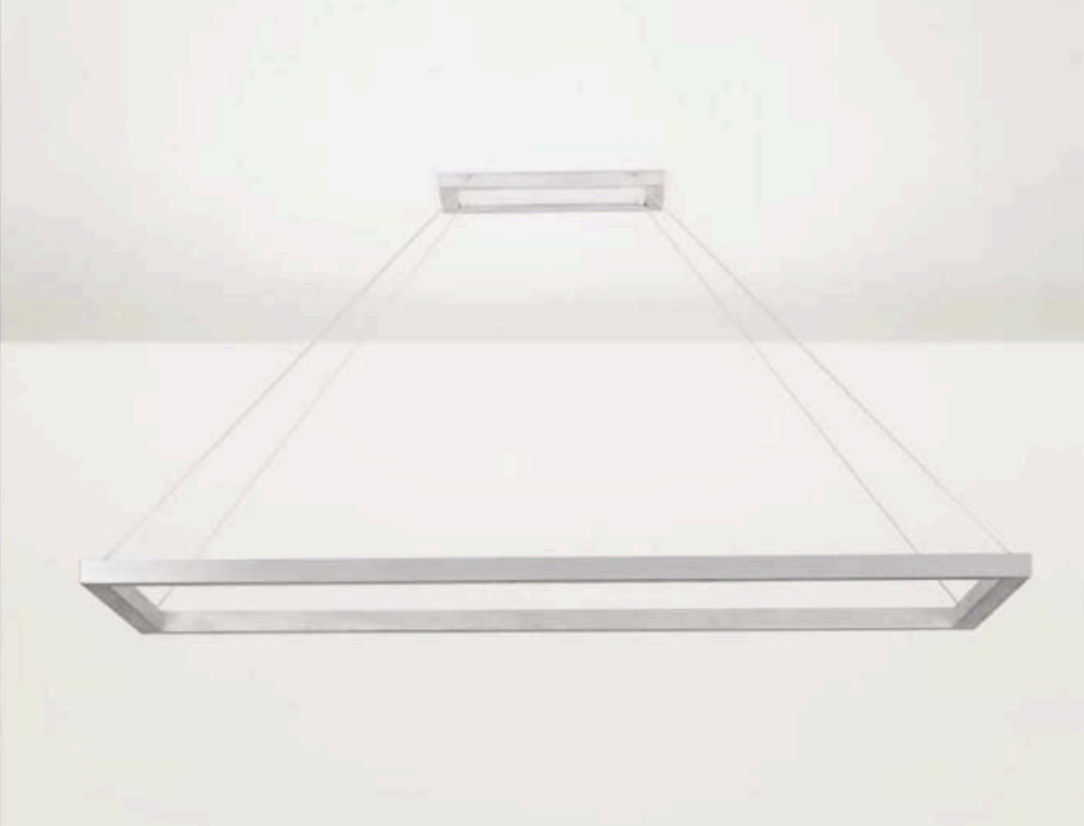
or visit us at: WWW.NTMA.COM

Terrazzo

A PERFORMING ART

Job Name: Episcopal Church of the Transfiguration
Location: Dallas, Texas
Architect: Good, Fulton, & Farrell Architects

CIRCLE 108 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/
TLCeBOOK



L I G H T
S P A C E

L I G H T S P A C E[™], A D I V I S I O N O F B O Y D L I G H T I N G
944 FOLSOM STREET SAN FRANCISCO CALIFORNIA 94107 TEL 800.276.2693 FAX 415.778.4319 WWW.LIGHTSPACEBYBOYD.COM

CIRCLE 109 ON READER SERVICE CARD OR VISIT www.enr.construction.com/products/figures

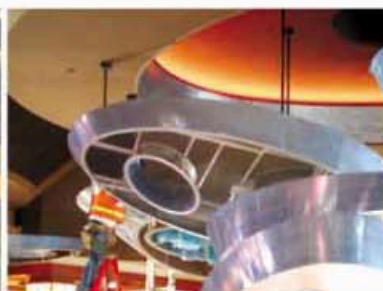


Decorative Metals
+
Custom Fabrication



Custom Canopies &
Column Covers
Cache Creek Casino
Brooks, CA

WE ENGINEER, BUILD & INSTALL



column covers
wall panels
ceiling panels
canopies
signage
fixtures
art

Oakland, CA 510.632.0853

www.mozdesigns.com



MAZING THINGS HAPPEN
WHEN YOU CHOOSE TO IGNORE
WHAT EVERYONE ELSE IS DOING.



When you stand out people notice. In this case for the right reasons. Choose a MonierLifetile roof for your project and you're choosing a product that distinguishes you from the competition. Not only because we have beautiful styles and colors that complement virtually any architectural design, but also because tile is the most durable roofing material available. Which means your houses are more attractive—both visually and intellectually—to potential homebuyers. So let us amaze you. Learn more about tile by calling 1-800-571-TILE (8453) ext. 239.

1-800-571-TILE (8453) ext. 239
www.monierlifetile.com

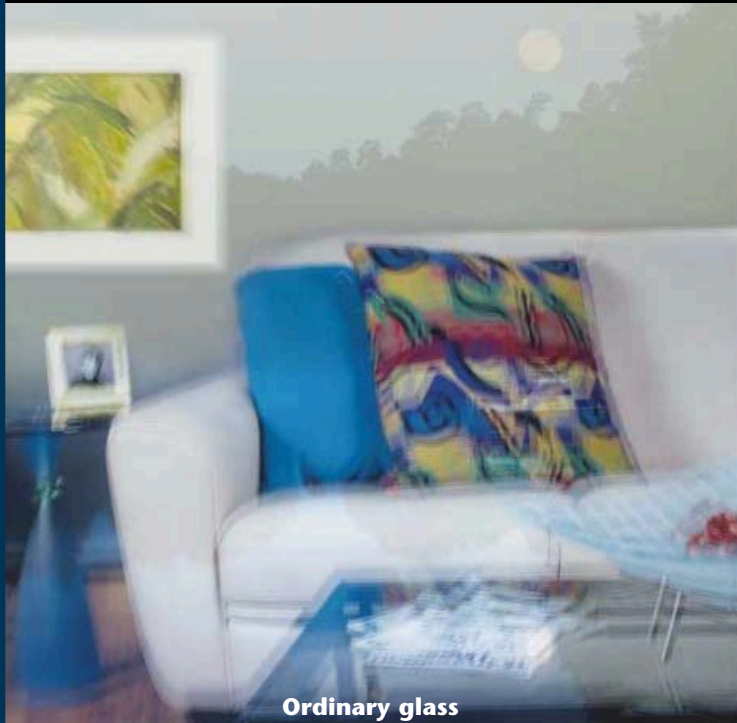


MonierLifetile™
Changing the way people think about roofs.

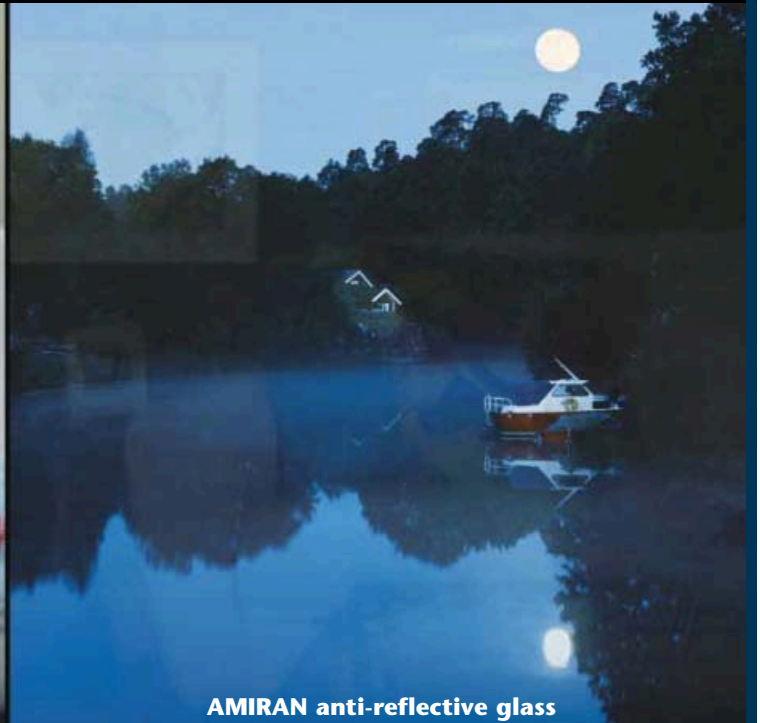
CIRCLE 110 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

TILEBOOK

Reflections are the way life used to be.



Ordinary glass



AMIRAN anti-reflective glass

Amiran® anti-reflective glass gives your residential clients remarkably clear nighttime views.

The sun goes down. The lights go on. The view is still magnificent. Because the anti-reflective glass used in storefronts, sports stadiums and museums around the world is now available for your residential projects. Amiran anti-reflective glass reduces glare in insulated glass to as little as 2% — even at night. Amiran glass can be installed in any frame or glazing system you would use for ordinary windows and can be laminated and tempered for safety. It's so effective that some upscale communities, Lake Tahoe for instance, have adapted construction guidelines to suggest the use of anti-reflective glass in all new homes. Of course, Amiran can be used when retrofitting too. Stop by the Schott website at www.us.schott.com/tgd or call 914-831-2241. And reflect on the way life is going to be with Amiran anti-reflective glass.

©2003 SCHOTT North America, Inc.

©Amiran is a registered trademark of Schott Glas, Mainz, Germany.

SCHOTT
glass made of ideas

Divine Intervention

AT A TIME WHEN POLITICIANS ARE DEBATING THE ROLE OF FAITH AND RELIGION IN PUBLIC LIFE, ARCHITECTS ARE CREATING SPACES THAT SPEAK WITH A UNIVERSAL SPIRIT.

By Clifford A. Pearson



1.

New Brighton, Minnesota

Hammel, Green and Abrahamson inserted a glass-and-stone chapel into a seminary campus so that it both inspires and fits in.



2.

Kobuchizawa, Japan

At a Japanese resort, a wedding chapel by Klein-Dytham Architecture explores the area where popular culture meets religion.



3.

St. Amant, Louisiana

Trahan Architects turned poured concrete into an austere but sensual material at a small complex of religious and education buildings.



4.

Seaside, Florida

Using vernacular building systems and simple materials, Merrill and Pastor created a civic landmark where people of all faiths can pray.

What makes a place sacred? Iconography offers one solution: Affix a cross or a Star of David to a building and it becomes a church or a synagogue. Devotion provides another: Lay down a prayer rug, face Mecca, and even a sidewalk can be transformed into a place of worship. But architecture can go beyond the ad hoc to create more permanent responses to the challenge of imbuing buildings with a spiritual dimension. Time seems to be a critical element in both the architectural program and the many schemes that have been proposed and built since people began praying. Indeed, the intersection of the timelessness of faith and the transitory nature of our lives on Earth provides the emotional tension that drives the best examples of religious architecture.

Making the metaphysical visible or physical is the key task facing architects designing religious buildings. Although materials and methods have changed greatly from one period and civilization to another, architects have had only two basic strategies at their disposal: defiance and allusion. A giant stone pyramid designed to last forever (or as close as possible) is an example of the first, while a stained-glass window that colors light as it enters a cathedral is an example of the latter. Some religious buildings combine both approaches; just think of Le Corbusier's chapel at Ronchamp with its impressive, thick walls and the ephemeral, ever-changing light that animates the spaces within. At Ise in Japan, Shintoism alludes to temporality by requiring that the main shrine be rebuilt every 20 years. In this way, architecture becomes ritual, which can remain timeless as long as it is practiced.

The projects included in this month's Building Types Study exhibit a range of approaches to making the physical spiritual. At the Bigelow Chapel in Minnesota, Hammel, Green and Abrahamson orchestrated a quiet symphony of light that floods the sanctuary. At the Holy Rosary Catholic Church in St. Amant, Louisiana, Trahan Architects skillfully manipulated the relationship between solid and void to allude to the essential mystery of faith. In the vacation town of Seaside, Florida, Merrill and Pastor used vernacular forms, but stripped them of all explicit iconography to create a sacred space for people of all beliefs. At a resort in Japan, Klein-Dytham Architecture treated one half of a wedding chapel's shell as a perforated metal veil, then set it in motion to add an element of drama and a bit of fun to a formal occasion.

All the projects, though, take a restrained approach to form and space, understanding that simple is often more powerful than complex when it comes to expressing what is sacred. ■

Bigelow Chapel

New Brighton, Minnesota

1

HAMMEL, GREEN AND ABRAHAMSON MODULATE SCALE AND LIGHT TO CREATE A GLOWING CHAPEL ON THE CAMPUS OF A MIDWESTERN SEMINARY.

By Camille LeFevre

Architect and engineer: Hammel, Green and Abrahamson—Gary Reetz, AIA, principal in charge; Joan Soranno, AIA, design principal; John Cook, AIA, project architect; Tony Staeger, structural engineer; Lance Kempf, mechanical engineer; Terry Tangedahl, electrical engineer; Steven Dwyer, design team

Client: United Theological Seminary

Consultants: Coen + Partners (landscape); Schuler Shook (lighting); Kirkegaard Associates (acoustical)

General contractor: M.A. Mortenson Company

Size: 5,300 square feet

Cost: Withheld

Sources

Precast concrete: Artstone

Stainless-steel curtain wall and skylights: Mero Structures

Aluminum windows and doors: HKL Cladding Systems

Millwork and liturgical furniture: Wilkie Sanderson

Chapel chairs: ICF Group

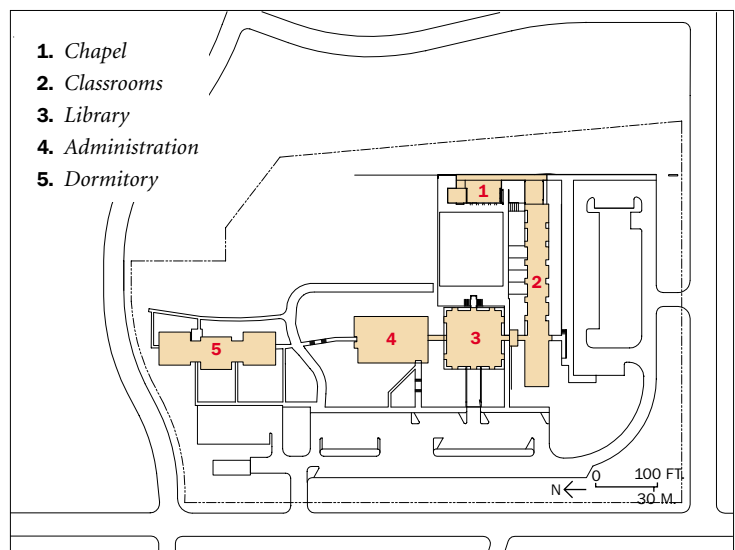
Ambient lighting: Uovo; Fontana Arte

Respecting the subdued context while adding an inspiring place of worship was the challenge facing the architects of the Bigelow Chapel at the United Theological Seminary of the Twin Cities in New Brighton, Minnesota. For 44 years, the seminary—a Christian-based, ecumenical graduate and professional school whose 225 students come from a variety of faiths—had occupied simple, Modern buildings made of buff-colored brick and precast concrete. In the spirit of Midwestern frugality, a multipurpose room served as the seminary's chapel.

But when a former student and board member donated \$1 million for a chapel, the school took advantage of the opportunity to add a new kind of experience, not just more space. "We wanted the building to suggest a spiritual invitation to worship," says Wilson Yates, president of the seminary. "It really had to do with the creation of sacred space."

To create a sacred space that didn't overwhelm its quiet, 11-acre-campus setting, Joan Soranno, AIA, a design principal at Hammel, Green and Abrahamson (HGA), manipulated scale and light. "In traditional religious spaces like synagogues, Gothic cathedrals, and mosques, the scale is monumental, with the darkness generating intimacy,"

Camille LeFevre writes about architecture for publications such as Metropolis and Architecture Minnesota.



explains Soranno. Bigelow Chapel, which she designed with her HGA colleagues John Cook, AIA, and Steven Dwyer, is the inverse. "Here, we made the scale smaller but flooded the sanctuary with light."

Program

The seminary requested a building with a flexible sanctuary able to accommodate seating in a variety of configurations, along with a narthex (vestibule) and offices. The new chapel needed to connect to an existing classroom building and architecturally address a library across the lawn to the west, two modest structures erected in 1962.

The real challenge set forth by the seminary, however, was a spiritual one. The sanctuary, as the focus of the building, had to be

accessible—iconographically and aesthetically—to the seminary's multid denominational community. "We wanted a chapel that would convey the transcendence, mystery, and power of God," says Yates.

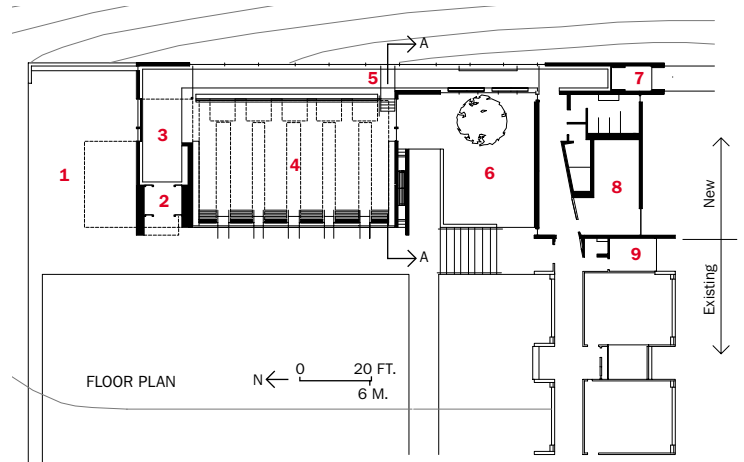
Solution

Rather than thinking in terms of a Christian worship space, says Soranno, she began designing a 2,200-square-foot sanctuary by considering "what makes a place spiritual." She arrived at a trinity of qualities: intimacy, warmth, and light. She and her team conveyed the first two characteristics through six translucent, quilted-maple panels that ripple up and down the interior of the sanctuary's west-facing, glass-and-stainless-steel curtain wall. Maple floors and rectangular

For more information on this project, go to Projects at www.architecturalrecord.com.



A processional hall that runs the length of the building provides a main entry on the south end of the site (above). The sanctuary looks onto the west garden (left) and toward the existing library.



- | | | |
|-----------------|----------------------|----------------|
| 1. North garden | 4. Sanctuary | 7. South entry |
| 2. West entry | 5. Processional hall | 8. Mechanical |
| 3. Narthex | 6. Meditation garden | 9. Office |

The architects used stones from a quarry in Italy as prototypes for casting concrete panels used on the south end (above) and north side (right) of the building. A cantilevered roof seems to float above the narthex and the north garden, one of three outdoor spaces that tie the building to its site.



quilted-maple panels that extend into the sanctuary from the ceiling of a long processional hall on the east side of the building reinforce the sense of peaceful enclosure.

"The maple has to do with the sense of warmth," Soranno explains, "while the curving panels create an intimate, nurturing environment in which to worship and pray." As sunlight passes from the curtain wall through translucent, acrylic-encased panels, it blends with and enriches the interior light. Daylight also enters the sanctuary through clerestory windows along the east wall and skylights, "which were critical," Soranno

says. "For many people, that notion of light coming in from above evokes a sense of divine presence."

But because many people also "think of God as being manifested most beautifully in nature," Soranno created two windows in the sanctuary that frame landscaped views. The south one overlooks a meditation garden and its lone musclewood tree, while the north one borders a single white oak.

The architects kept the sanctuary column-free by using tapered beams secured through innovative moment connections to roof girders that transfer the bulk of the gravity

load to the east wall, rather than the curtain wall on the west. Tiny stainless-steel mullions in the curtain wall act as invisible "columns."

Glass fins on the curtain wall project both inside and out, screening and diffusing light entering the sanctuary. Similar to buttresses that march through a Gothic cathedral, the fins and the curved maple panels create a rhythmic pattern with a meditative quality, says Soranno. The fins also introduce a planar quality of weightlessness that is repeated in several other "floating" forms, such as a stone-trimmed roof that hovers above and beyond the

narthex on the west side of the building. This roof appears to be a 29-foot-long cantilever, but it is actually supported near its center by slender stainless-steel pipe posts secured to a lower roof.

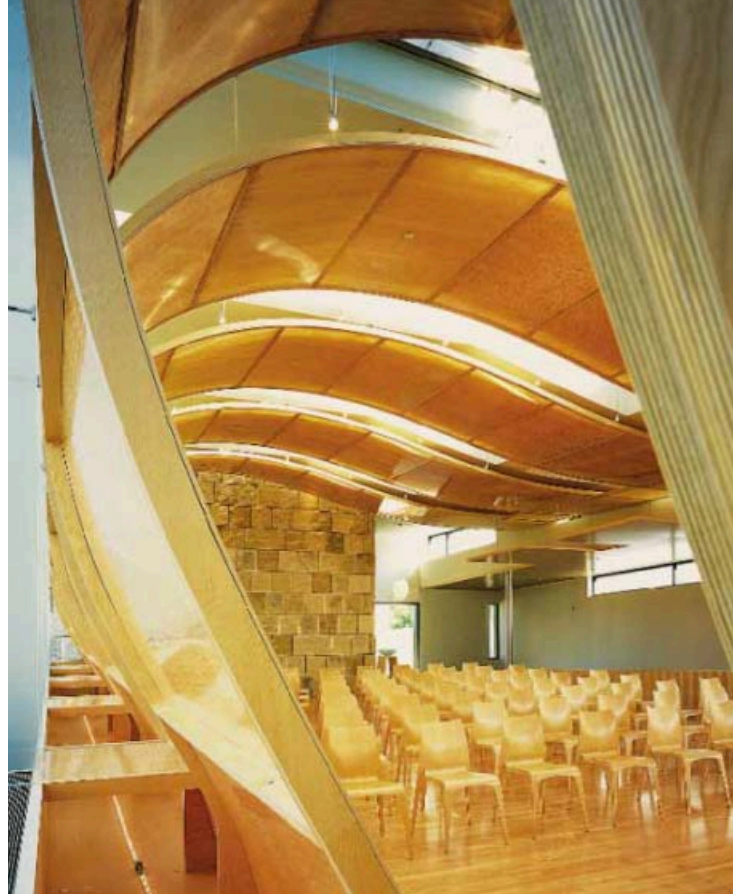
A 42-foot-high bell tower at the south end of the sanctuary provides a strong vertical note to a building whose forms are predominantly horizontal. Two stone walls placed 2 feet apart and slightly offset from one another define the tower and echo the rhythm of the paired glass fins that run along the length of the sanctuary's curtain wall.

Initially, Soranno considered

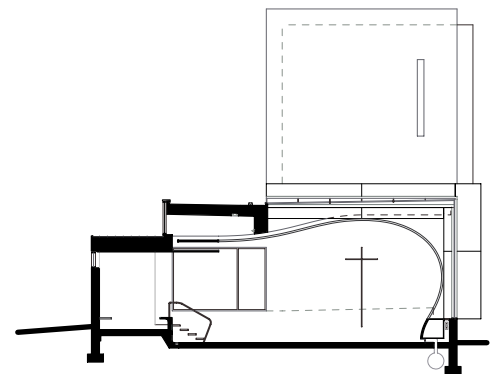
The meditation garden, between the chapel and the existing classroom building, is paved with black slate and a solitary muscadine tree.







Quilted-maple ribbons wrap around the inside of the sanctuary (above and left), modulating light and adding a dynamic quality to the space. Soranno designed the maple table, lectern, pulpit, and baptismal font, while the maple chairs were bought.



SECTION A-A

using Italian travertine for the bell tower and the north and south walls of the sanctuary. Instead, the design team ordered 50 pieces of the stone from an Italian quarry and kept 39 to use in the cladding and as prototypes for manufacturing 4,000 precast-concrete panels that look like stone.

To visually secure the 5,300-square-foot building to its site, the architects placed it 4 feet lower than the classroom building it connects to on the south and the library it faces on the west. A trio of gardens serve as transitional spaces between the chapel and its neighbors: a meditation garden adjacent to the classroom building, a small

outdoor room on the north, and a lawn extending to the library.

A long stone-clad processional hall extends the entire building length, starting at the south entrance, running along one side of the meditation garden, and ending at the narthex on the north end of the site. Sloping toward the sanctuary, the hall serves as a stately but dynamic axis to the entire architectural composition.

Commentary

Using daylight, space, and a sophisticated palette of materials, the architectural team rose to the challenge of creating a building that is spiritual, timeless, and welcoming to people of all faiths. ■

Leaf Chapel

Kobuchizawa, Japan

2

KLEIN-DYTHAM ARCHITECTURE SETS A WALL OF A WEDDING CHAPEL IN MOTION AT A RESORT IN THE JAPANESE ALPS.

By Clifford A. Pearson

Architect: Klein-Dytham Architecture—Astrid Klein, Mark Dytham, Yoshinori Nishimura, Yukinari Hisayama, project team
Executive architect: Hoshino Resort Architects—Shozo Miyawaki
Client: Risonare Resort
Landscape designer: Studio On Site—Hiroki Hasegawa, Chisa Toda, Kazutaka Tanbe
Lighting designer: Ice—Masanobu Takeishi, Michiru Tanaka
Engineers: Arup Japan—Tatsuo Kiuchi, Yuji Kusawake, Keiko Katsumoto (structural); Tetens Engineering—Yutaka Murase, Ryoichi Teshigawara (mechanical, electrical)
General contractor: Rinkai Nissan Kensetsu—Hiroki Kanno, Fumihiko Kobayashi, Chiaki Kobayashi

Size: 550 square feet

Cost: Withheld

Sources

Hydraulic rams: Kawasaki Heavy Industries

Glass-roof film: Lintec

Polycarbonate lens cap: Kyoraku

Fabric scrim: Taiyo Kogyo

Furniture: Waazwiz

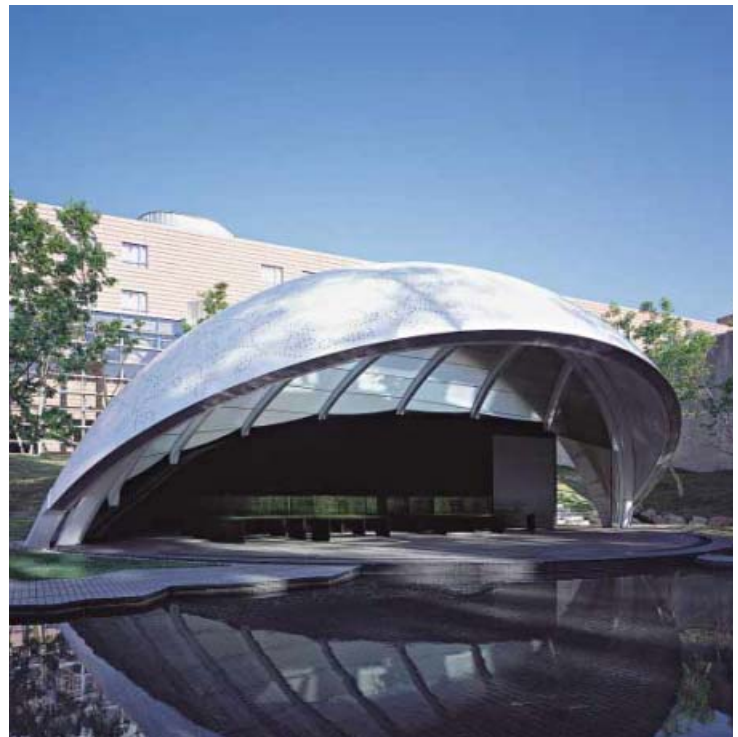
For more information on this project, go to Projects at www.architecturalrecord.com.

Theatrics have always played an important role in church architecture. Soaring naves, mysterious lighting, and bold murals have helped fill pews for hundreds of years. Now Klein-Dytham Architecture has taken this strategy into the 21st century, using its own form of stagecraft to add drama to a small wedding chapel in the Japanese Alps. Because the 550-square-foot chapel sits in the garden of a resort hotel and is as much a business as a sacred space, architects Astrid Klein and Mark Dytham could take liberties that might not be appropriate for other religious buildings. Their client, after all, was a businessman who owns hotels and a brewery, not a church leader or congregation. “He knew we are media-savvy and would design something that would attract attention in the magazines,” says Dytham.

Program

Part of the sprawling Risonare resort (designed by Mario Bellini during the economic bubble of the 1980s), the chapel needed to have its own identity and at least the semblance of spirituality. But because people of many different faiths would get married there, it needed an ecumenical design with no iconography associated with any particular religion or sect.

Instead of accommodating a specific liturgical program, Klein-



Dytham had to design a chapel that would orchestrate a procession of experiences in a manner both efficient and memorable. Given an attractive garden setting, the architects decided to make nature an important theme of their design.

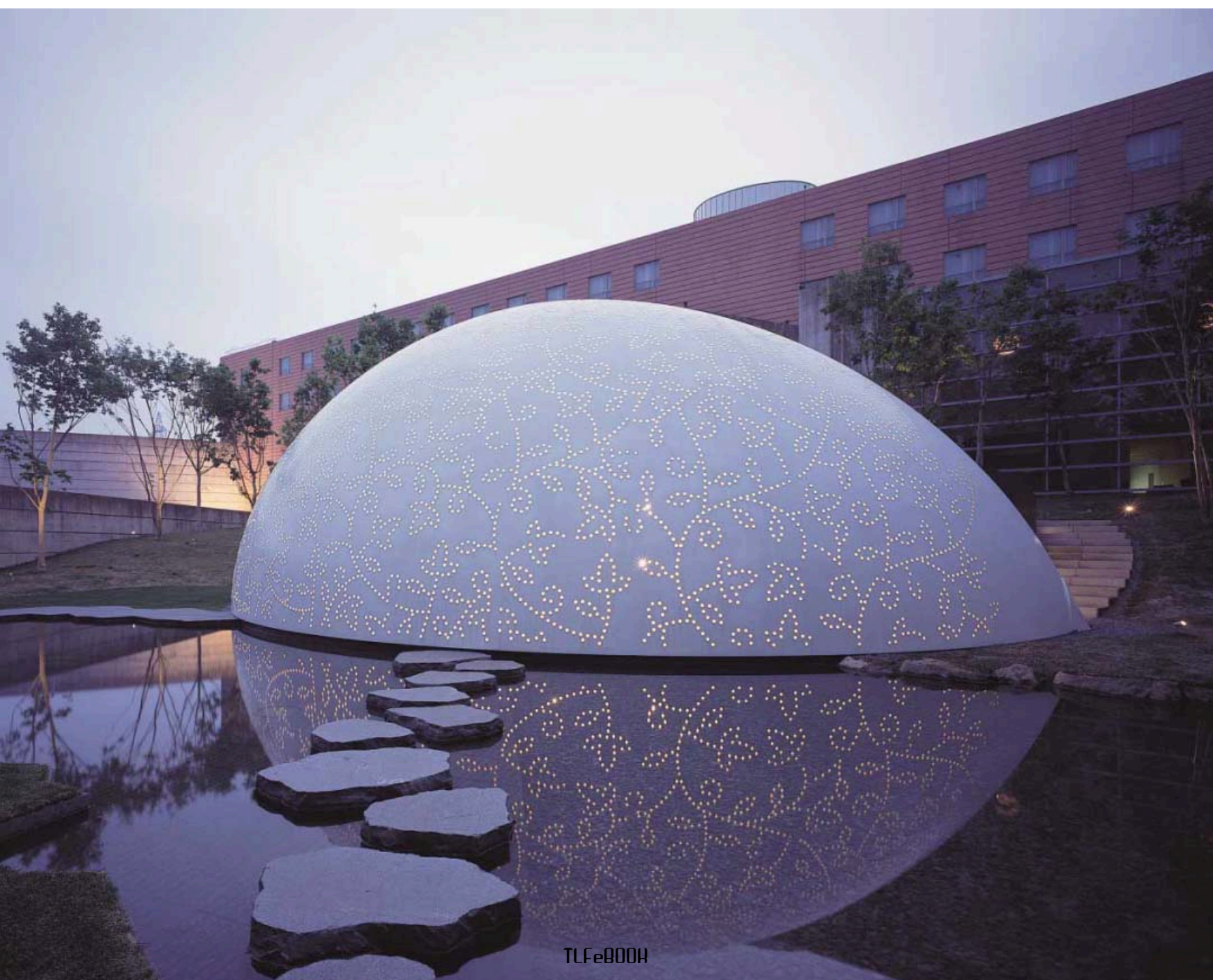
Solution

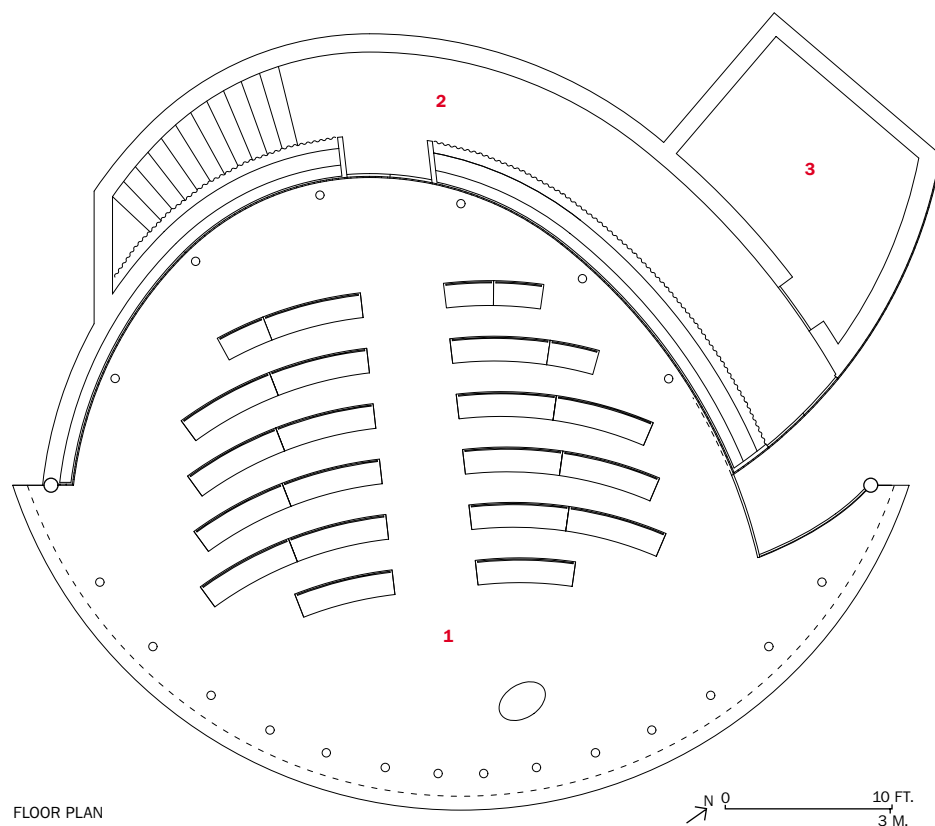
After the client mentioned the idea of a pergola in an early meeting, Klein and Dytham started exploring designs structured like a pair of leaves. At first they thought about making both leaves out of glass, but soon realized a backdrop offering

views of the rolling garden would prove distracting to guests during the wedding ceremony. So they developed one leaf as a veil, a perforated metal surface that would allow light in but block views.

With this notion in mind, the architects decided to translate into built form the climactic moment of every wedding—when the groom raises the bride’s veil and kisses her. Using quarter-inch-thick steel panels welded together and attached to a tubular steel frame, Klein-Dytham created a curving wall that slides up and out of the way just as the new-

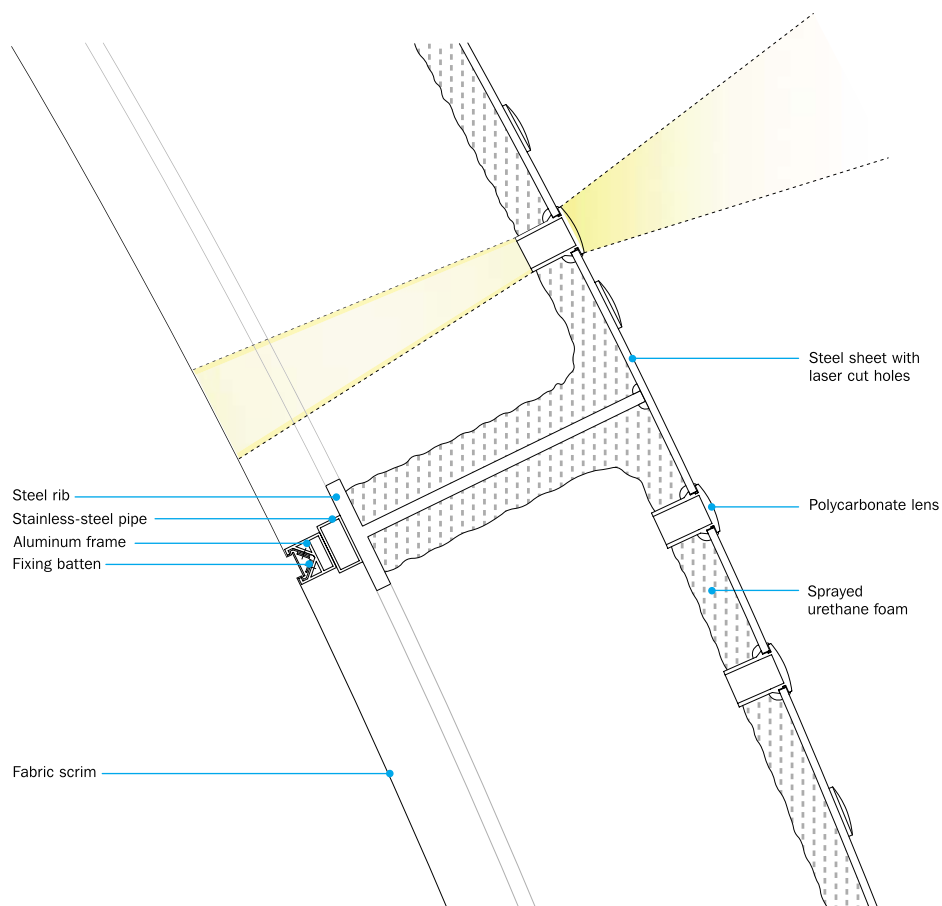
After the groom kisses the bride, the chapel's perforated-steel "veil" rises (opposite) to let the couple and their guests move to the garden for a toast and photographs (right). The architects used a freehand drawing of ivy, based on henna patterns featured in Indian wedding ceremonies, for the acrylic lenses set into the steel shell (below).





1. Chapel
2. Corridor
3. Storage

Before their dramatic exit into the garden, the bride and her father wait in a velvet-lined corridor behind the chapel (plan, left). Light from the lenses is projected onto a nylon scrim inside the dome (below). Without the scrim, the light would not read as a pattern.



lyweds embrace. Arranged in a looping ivy pattern set into the 11-ton moving wall, 4,700 polycarbonate lenses project light onto a nylon scrim stretched 10 inches from the wall's inside surface. Two hydraulic rams (one at either end) lift the steel veil as if it were a roll-up garage door. "We were concerned about making the whole thing work," says Dytham. "But Kawasaki, who made the rams, said, 'We do stadium roofs that move. This is no big deal.' "

The disappearing wall not only offers a theatrical way of ending the ceremony, but serves the more prosaic function of quickly ushering guests out of the chapel and into the garden for a champagne toast. With everyone out of the building, the steel veil closes, allowing workers to prepare the chapel for the next wedding. Thanks to this careful choreography, the chapel can handle six weddings a day, running on an 80-minute cycle.

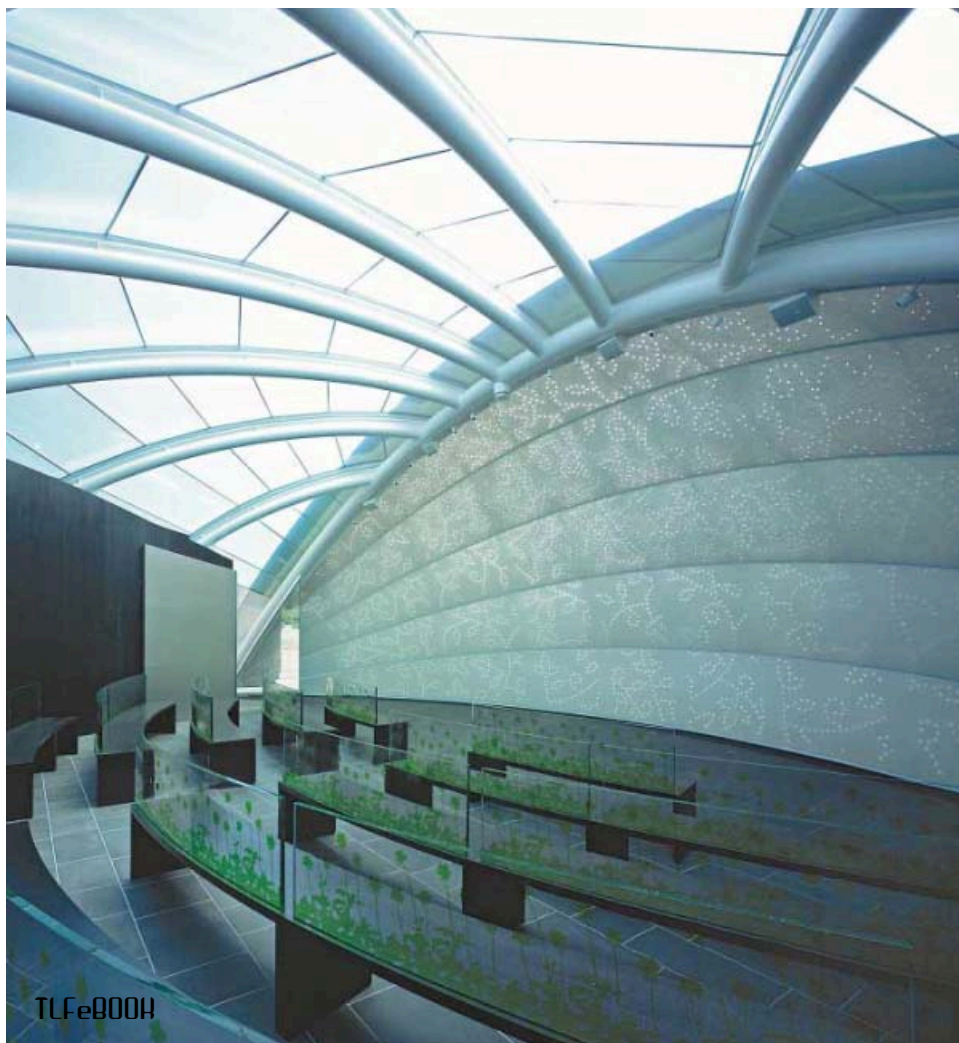
Inside the chapel, the architects used black granite for the flooring, stained-black pine for the walls, and black wood pews, so all the men in dark suits blend into the setting and allow the bride in white to stand out. Clear acrylic backrests on the pews encase translucent green "flowers" that seem to dance when sunlight hits them.

Working with Arup Japan, Klein-Dytham designed the chapel as a lightweight steel structure so it can ride out earthquakes. To minimize its visual impact on the garden when viewed from nearby hotel rooms, the architects pushed it about 12 feet into the ground and tucked it into the sloping site. A concrete basement provides space for radiant heating and cooling that is blown into the sanctuary.

Commentary

Having designed temporary structures such as construction fences and exhibitions, Tokyo-based Klein and Dytham understand that buildings exist in time as well as space. They exploited this knowledge to create a chapel in which light and movement change the visitor's experience from one moment to the next. ■

Klein-Dytham envisioned the chapel as two falling leaves, the front one made of perforated steel and the back one made of translucent glass set between tubular steel "veins" (right and below). The architects designed all the furniture and used mostly black materials (stained wood and granite) for the interior to let the bride stand out in white. The pews have clear acrylic backrests with translucent green "leaves" set within them.



Holy Rosary Catholic Church

St. Amant, Louisiana

3

TRAHAN ARCHITECTS DELIVERS A POWERFUL STATEMENT IN CONCRETE AND GLASS FOR A SMALL CATHOLIC PARISH OUTSIDE OF BATON ROUGE.

By Robert Ivy, FAIA

Architect: Trahan Architects—Trey Trahan, AIA, partner in charge; Brad Davis, Kirk Edwards, AIA, Bryan Hammond, Michael Monceaux, Melissa Duhon, Lisa Hargrave, AIA, Jason Hargrave, AIA, project team
Client: Holy Rosary Catholic Church
Interior designer: Lauren Bombet Interiors

Engineers: Schrenk & Peterson Consulting Engineers (structural, civil); APEX Engineering (mechanical, electrical)

General contractor: Quality Design and Construction

Size: 17,700 square feet

Cost: \$2.4 million

Sources

Poured concrete: Sorrento Lumber Company

Metal-and-glass curtain wall and skylights: Architectural Glass & Metal

Modified bitumen roofing: Johns Manville

Altar and tabernacle: Fabricated by Tallix

Interior ambient lighting: Cutler Hammer



The architecture of rural Louisiana tends toward *mélange*—often a mock Acadian style mixed with a dollop of neon. Parish churches, which are frequently the most significant structures, anchor the smaller communities. The Holy Rosary Catholic Church complex in the tiny unincorporated town of St. Amant, located halfway between Baton Rouge and New Orleans—near the larger town of Gonzalez—breaks from the formula.

Just 3 miles off bustling Interstate I-10, a collection of modest white buildings, designed in an unapologetically contemporary idiom by Trahan Architects of Baton Rouge, unifies a campus formerly distinguished by a casual jumble of

building types. The recent architecture, in the words of Sister Mary John Hotard, the church's pastoral associate, "reflects where we are today."

Program

While the parish is small in Louisiana terms, consisting of 2,300 families, it had grown beyond the initial capacity of its sanctuary. The original cypress-sided church, dating from 1905, holds only 300 people. Furthermore, when the parish began a master-planning effort with architect Trey Trahan in 1998, its centennial in 2005 loomed large. Parishioners, with a building committee under the leadership of Father Robert F. "Bob" Stine, church pastor, were con-

cerned that the beauty and rural character of their region was being swallowed up in the detritus of the strip-mall economy, currently eating away at nearby communities. Their own complex lacked unity and a sense of permanence. They needed a plan.

Architect and parishioners developed a prioritized list, including an administrative pavilion separate from classroom and other education buildings, and a new chapel or oratory that would seat 25 to 40 people and be appropriate for morning mass or private prayer. Ultimately, the still-standing green metal building called the "Green Monster" would come down, as would other inadequate

For more information on this project, go to Projects at www.architecturalrecord.com.

The austere concrete walls of the complex set it apart from the unremarkable Louisiana terrain (opposite). Covered walkways and buildings for administration and education define a rectilinear courtyard within which the freestanding chapel follows its own geometry (right and below).





structures on the site. Economy dictated that heating and cooling be zoned to allow tempered spaces only during active periods. Money was an object.

Trahan, himself a practicing Catholic, worked closely with the parish, spending a year discussing both function and poetics, including “what the chapel would feel like, how the buildings would function, and what their relationships would be.” Models included the work of Louis Kahn and, significantly, Le Corbusier’s pilgrimage chapel at Ronchamp. Trahan asserts that his analogies found an appreciative local audience: “Many of them are more sophisticated than we might have given them credit for.” The chapel would be both the parish’s locus of spiritual activity and a waypoint on a

continual spiritual journey, linked to other pavilions by walkways.

Solution

Today, an austere concrete wall, punctuated by an overhanging entry, stretches horizontally into the landscape, giving minimal clues to the activities inside. Radically cantilevered reinforced-concrete canopies, which feather out to near-impossibly thin edges, cast shade and shadow on interior perimeter walls and surmount walkways, which connect the primary new buildings. Offices for private counseling sessions face enclosed courtyards, which buffer Louisiana’s fierce southern sun from inhabited space and provide privacy and landscaped serenity.

Building systems underscore

The north side of the administration building (above) looks onto the complex’s main courtyard, while its south

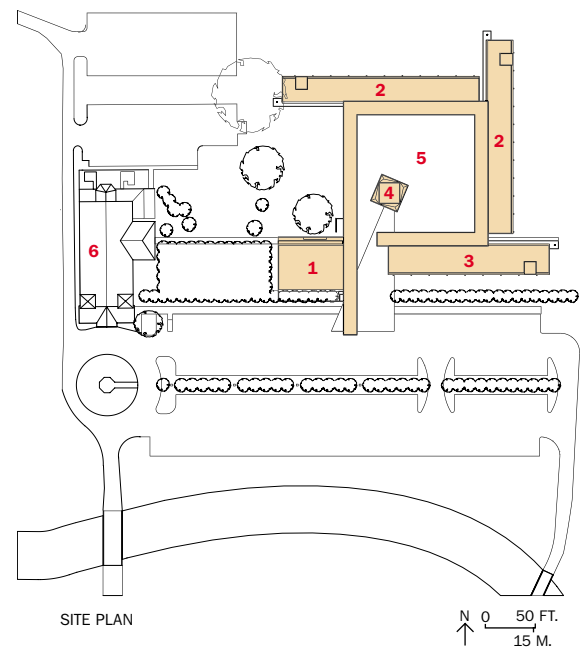
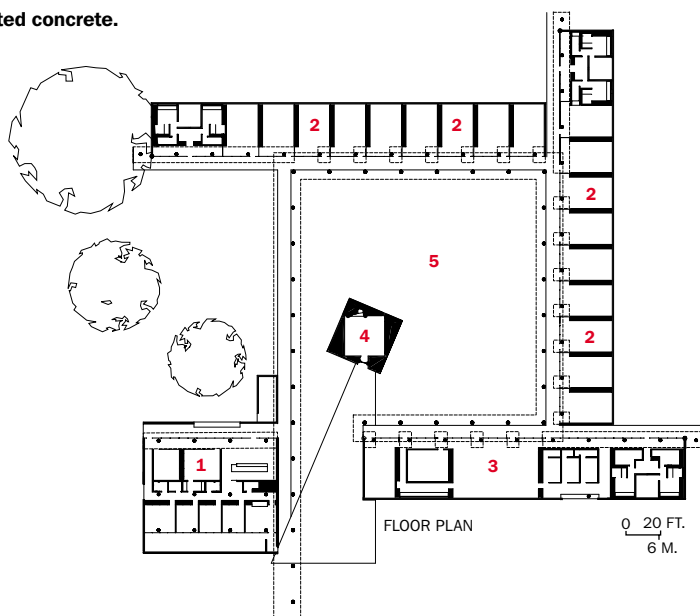
elevation features a narrow private yard (below), which is now lush with tall native grasses.





In the religious education building (above), daylight slides in from above to wash the lovingly crafted concrete.

- | | |
|------------------------|---------------------|
| 1. Administration | 4. Oratory (chapel) |
| 2. Classroom | 5. Sacred precinct |
| 3. Religious education | 6. Existing church |





both transparency and enclosure. Concrete walls proved integral to the architect's scheme, which demanded a degree of care unusual for the region. Concrete pours gained added importance from the contractor. "This is art!" read a sign he posted on the walls, alerting the trades to the importance of the work that they were doing. Butt-joint glazing opens interiors to the exterior courtyard.

Central to the entire scheme, the 30-foot-square chapel (which cost an amazingly low \$300,000) derives its rotated geometry from Japanese tatami-mat configurations, a notion that spirals out from the building in a pathway to the entire site. This tiny space, both

compressive and mysterious, casts light and shadow through a calculated series of apertures based on Christian symbolism. A cast-glass door, conceived and executed by craftsman John Lewis from California, glows with translucent power more brightly at its perimeter, its luminosity softening toward its center. The entire space encourages reflection, a sense of calm, and interiority.

Commentary

Holy Rosary Catholic Church demonstrates that powerful ecclesiastical architecture need not achieve cathedral scale. With spare assurance and mastery of form and proportion, coupled with a poetic approach to materials in

the manner of Tadao Ando, architect Trey Trahan and his parish client have collaborated to produce a minor masterwork. Parishioners have expressed mixed feelings ("some love the interplay of light and shadow ... some find it cold"), and one parishioner, examining the finished concrete wall, asked, "Where's the brick?"

Nevertheless, the chapel and surrounding structures of Holy Rosary join a distinguished pantheon of pilgrimage sites, including those that inspired the architect. The complex will continue to draw its own parishioners into contemplation, while bringing admiring devotees of sacred architecture to a tiny community called St. Amant. ■

The chapel or oratory is a 30-foot-square space inspired by Le Corbusier's chapel at Ronchamp and the tatami-mat geometry of Japanese buildings. Trahan used the thick walls to sculpt light as it moves inside. The chapel is now furnished with simple wooden pews and a metal-and-wood altar.



Seaside Interfaith Chapel

Seaside, Florida

4

MERRILL AND PASTOR HAS COMBINED AN AUSTERITY DRAWN FROM LOCAL TRADITIONS WITH A CIVIC PRESENCE SUITED TO A PROMINENT SITE.

By James S. Russell, AIA

Architect: Merrill and Pastor—Scott Merrill, designer and partner in charge; David Colgan, project manager

Client: Seaside Interfaith Chapel

Consultants: Frank Farley & Associates (structural engineering); Sklow & Runkel (mechanical, electrical); Robert J. Laughlin and Associates (lighting)

General contractor: Breaux Construction

Size: 3,300 square feet

Cost: \$1.5 million

Sources

Roofing: Galvalume

Wood roof trusses: Universal Building Specialties

Wood cladding: Western red cedar

Wood floors and altar paneling: Locally salvaged deadhead heart pine

Pews: Shaver Millwork

Liturgical furniture: Meridian Workshop

Lighting: Bega; Elliptipar; Lightolier; Rejuvenation; Kim

Long before there was a celebrated holiday town called Seaside, its planners, Andres Duany and Elizabeth Plater-Zyberk, set aside a place for a church. By the time the town was ready to build one, some 20 years later, Seaside had become famous as the place where New Urbanism was seeded and tested. Its architecture had also considerably evolved from modest beach cottages and shotgun shacks inspired by local prototypes to elaborate confections of columns and cupolas.

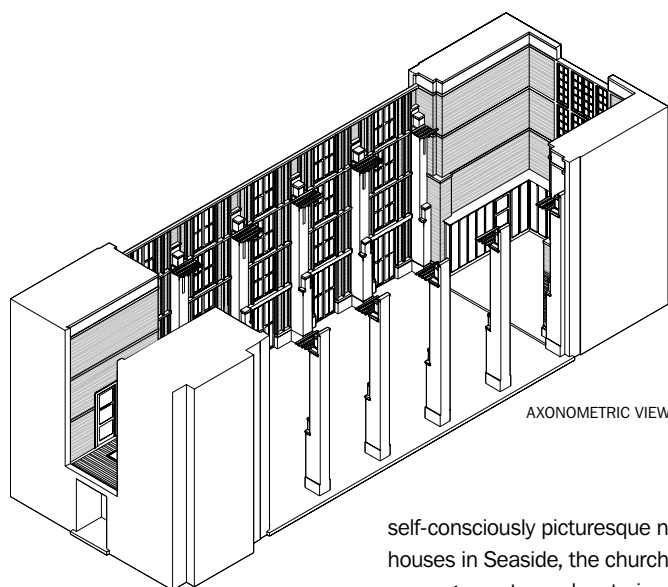
Program

Although a Sunday beach service was held during the summer, potential congregants were too few, too transient, and too seasonal to support a full-time church until recently. Finally, in 1999 a group of residents set out to build an interfaith chapel, and Robert Davis, Seaside's developer, agreed to donate the land. "The first problem," said architect Scott Merrill, "was that it had to look like a church without reflecting any specific church tradition."

Solution

"We wanted to show nature and have natural light play a big role," said Patrick Roberts by telephone from his office at the Florida Association of Broadcasters in Tallahassee. Roberts, with his wife Pam, led the chapel-building effort.

Merrill found himself drawn to the basic geometric shapes and



board-and-batten construction of old local churches—an austerity enforced by poverty. "That Alabama Stick Style took such great delight in describing the way it was put together," Merrill said. He offered the residents three schemes, one of which did not draw support because it looked too much like a Baptist church, according to Roberts. The board selected the one that most engaged the universal appeal of natural light.

As built, it is austere yet delicately detailed. Volumetrically, its south-facing front elevation is a square surmounted by a pediment dimensioned as an equilateral triangle. The central band of glazing visually narrows the squareness of the base, while emphasizing the beefiness of the structure at the corners, where Merrill has built in the greatest sheer resistance to high winds. Amid the elaborately detailed,

self-consciously picturesque newer houses in Seaside, the church's spare geometry and restrained trim help create presence without big-gestures. "I recognize the validity of small gestures," says Merrill.

Roberts had made his own study of traditional local churches and had noted the "side gardens with picnic tables for outdoor fellowship." In Merrill's design, a cloistered porch and yard serve the same function.

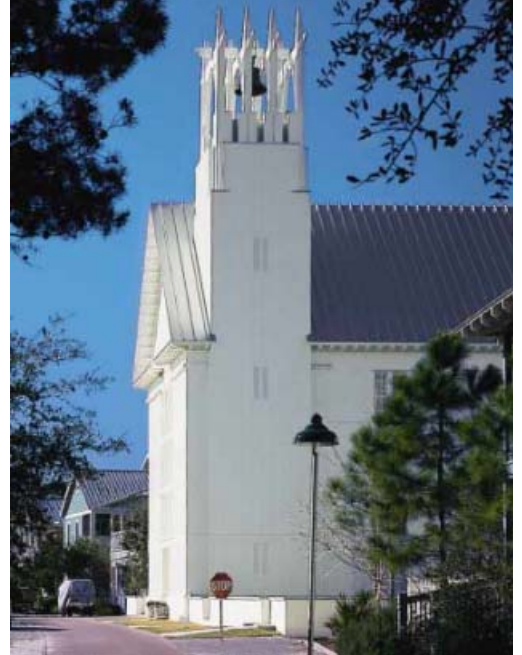
With its narrow vertical bands of glazing, the lofty sanctuary evokes a building larger than the 200-seat space the structure comfortably envelops. The mullioned windows and internal shutters capture the contemplative character of an empty beach, atomizing the mist-laden light. Tall glass panes overlook the altar, opening the chapel to trees and sky while not admitting light where it would silhouette the celebrant.

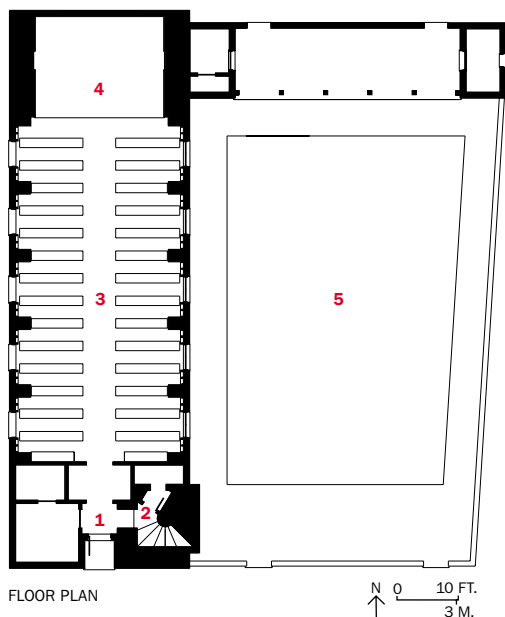
Services are held in the chapel every Sunday year-round. "People have felt a warmth from day one,"

For more information on this project, go to Projects at www.architecturalrecord.com.

PHOTOGRAPHY: © STEVEN BROOKE; EXCEPT CASEY SILLS (OPPOSITE, TOP LEFT)

In the plan of Seaside, the chapel site presides over a civic axis that bisects the town. Merrill centered the 64-foot-tall bell tower on the axis (far right and below), making room for a side garden and cloistered porch (below). Tall bands of glass (near right) open between masonry piers (axonometric, opposite).





1. Entry
2. Bell tower
3. Nave
4. Altar/celebrant
5. Courtyard

Roberts says, “whether they are Catholic, Jewish, Assembly of God, Southern Baptist, or Episcopal.” It acts as an adjunct meeting space for Seaside’s charter school and a chamber-music concert hall. Its 100-year-old bell chimes for weddings and warns of hurricanes.

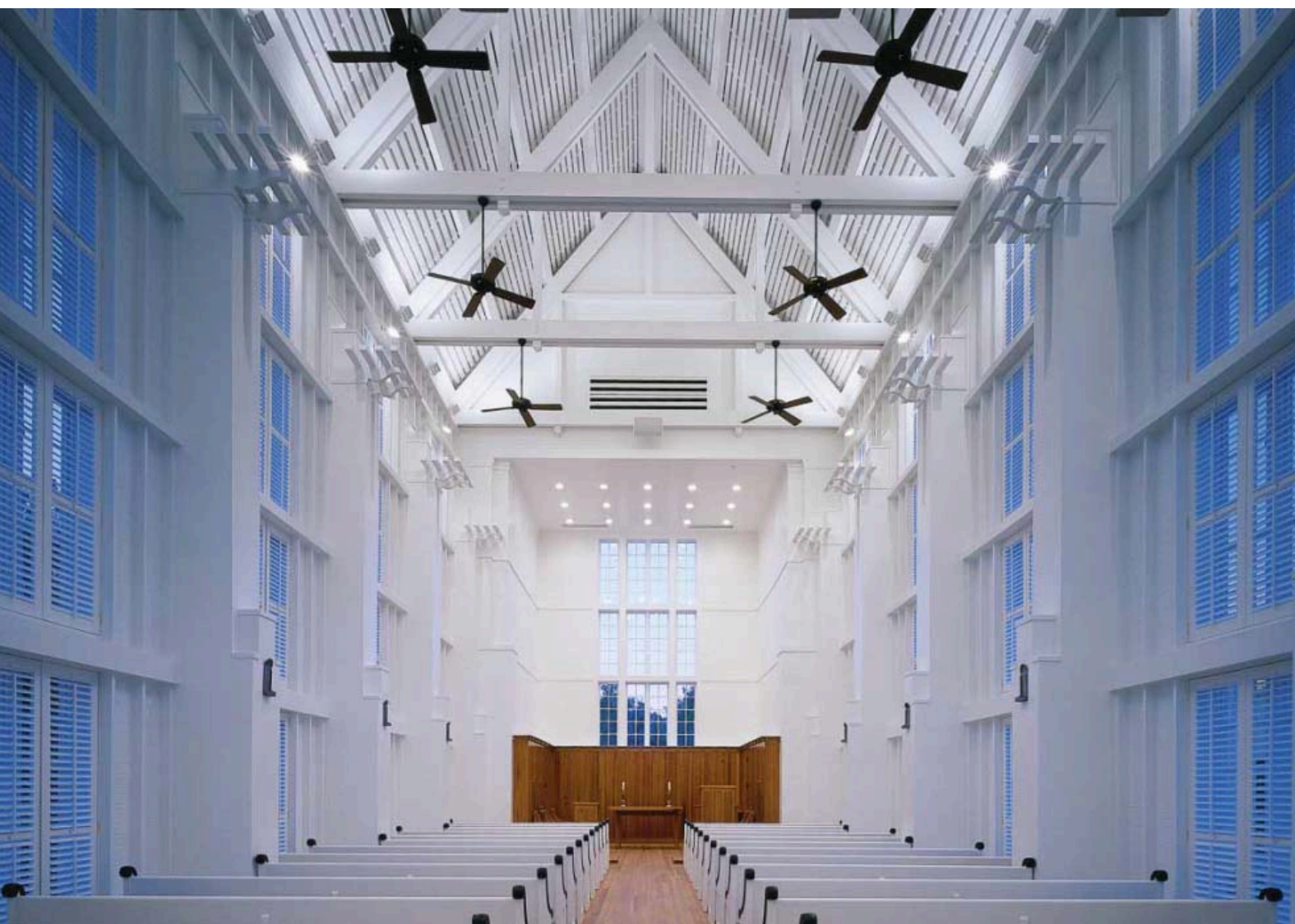
Subsequent ecclesiastical work has taken Merrill in a different direction. His clients want structures that wrap seats around the altar. Glass is used sparingly “because entertainment in the form of amplified music and video is so much a part of the celebration now.” He’s wistful about the loss of connection to place this entails. “As you take away what distinguishes one from another, they become more generic.”

Commentary

The tautness of the Seaside

chapel’s board-and-batten exterior suggests the poverty-seared austerity of the local tradition it draws upon. Out of telling details, Merrill has been able to combine this modesty with a gracious but welcoming monumentality suited to the place the town has made for the chapel. Merrill’s design proclivities are traditional, but by examining tradition with a critical eye, he ends up with an elegant abstraction that quietly speaks to the way it is made as well as to the diversity of celebrations it accommodates. ■

Like old local churches, the chapel “describes” its construction. Wall surfaces carry gravity and wind loads through exposed studs to thick horizontal girts, which connect with stucco-covered masonry piers.



The best ideas don't always
happen at work.



Evenings, weekends, all-nighters, you name it. When the idea hits you we have the design tools to turn your thoughts into reality.

Our new site is specifically designed to assist you 24/7 no matter where you are. Visit us anytime at www.metaldek.com.

Metal Dek Group™
a unit of **CSI**

CIRCLE 112 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

TLCFeBOOK

ARCHITECTURAL RAILING SYSTEMS

**ALL ARCHITECTURAL SYSTEMS
DESIGNED, ENGINEERED
AND MANUFACTURED
BY C.R. LAURENCE**

ARS ALUMINUM RAILING SYSTEM

Available in many configurations, these impact resistant extruded aluminum railings feature high structural durability and are specially coated to resist the corrosive effects of the elements and salt water.

STRUCTURAL GLASS RAILING SYSTEM

Perfect for projects where clear viewing and a sophisticated appearance are desired. Glass Railings also serve as an effective wind barrier, combining practicality and pleasing aesthetics to create an ideal outdoor balcony environment.

AWS WINDSCREEN SYSTEM

Popular in hotel and condo applications, CRL Glass Pool Surrounds and Windscreens create an effective barrier against wind and sound, without creating the confining feel of a typical fence.

**COMMERCIAL
AND RESIDENTIAL**



HAND RAILS, GUARD RAILS, WINDSCREENS AND MORE...



Ask for Your Free CD-ROM Catalog Today

The HR05 Railing Systems Catalog features hundreds of new structural glass products, plus valuable technical information and data. You can also view it online at **crlaurence.com** or get a free CD-ROM Catalog.

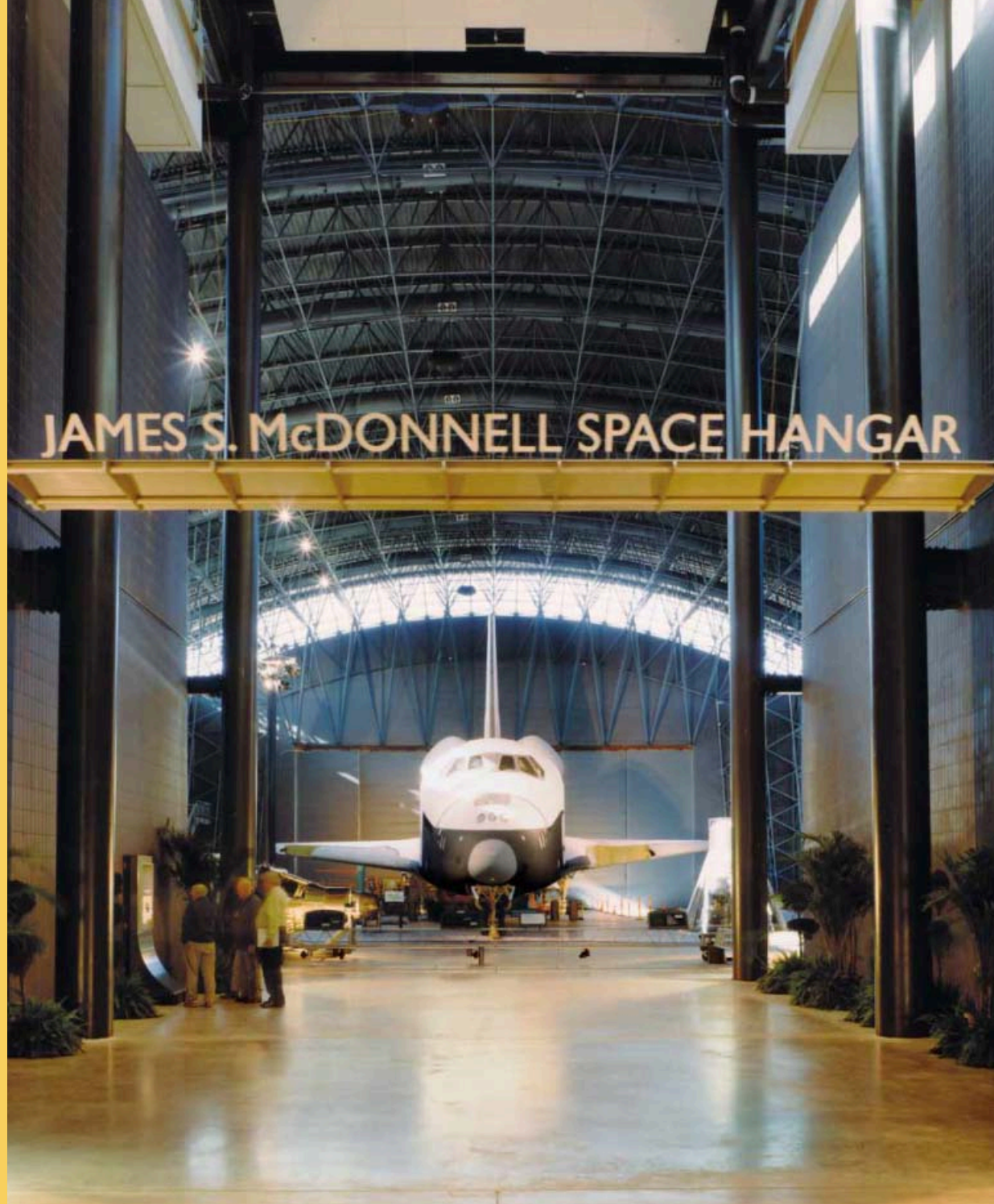
CIRCLE 113 ON READER SERVICE CARD OR GO TO ARCHITECTURALCONSTRUCTION.COM/PRODUCTS/



CRL[®]
ISO 9001:2000 Certified
crlaurence.com
C.R. LAURENCE COMPANY
Architectural Products Manufacturing Division
Phone: (800) 421-6144 • Fax: (800) 587-7501

You
provide
the
“oooh.”

We'll
provide
the
“ahhh.”



Winner of the 2005 AIA/CES Award for Excellence

Nothing's more rewarding than seeing your vision take flight. And no one's more committed to the successful completion of your tile and stone installations than our Architectural Services team. We simplify the specification process with everything from easy-to-use installation system CAD details and product data to personalized consultation with our team of certified professionals. In fact, we've just been honored by the AIA/CES as a premier provider of continuing education programs. Our expertise, combined with our full line of installation systems and outstanding warranties, give you the resources you need to make your projects "all systems go."



AIA/CES REGISTERED PROVIDER

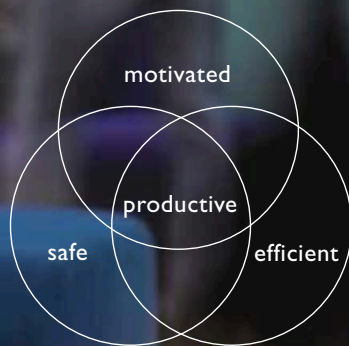


ArchitecturalResources

INSTALLATION SOLUTIONS FOR TILE AND STONE

CIRCLE 114 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

800-272-8786
www.custombuildingproducts.com



If your floor was 8% more efficient, would you be 8% happier?

Well, happiness, like efficiency, is difficult to measure. But 90% of business decision makers say improvements in office design can increase productivity by creating environments where obstacles to efficiency are minimized or eliminated.* Carol Conrad of UCLA believes that flooring plays a big role in creating more efficient, effective spaces. She specs Johnsonite rubber flooring because "investing in elements that make people safer and more comfortable pays dividends." Find out how Johnsonite can help you create high-performance environments that deliver economic return. 800.899.8916 www.johnsonite.com

*ASID research study: *The Impact of Interior Design on the Bottom Line*

Johnsonite®

© 2005 Johnsonite, Div. of Duramax, Inc.

CIRCLE 115 ON READER SERVICE CARD OR GO
TO ARCHRECORD.INSTALLATION.COM/PRODUCTS/

Architect: Hardy Holzman Pfeiffer Associates, Los Angeles

Quality demands a formal audit.



*Dave Mooney,
Cedar Quality Auditor*

Certi-label™ cedar shake and shingle manufacturers undergo third party inspections PLUS a second level of quality assurance by our own Cedar Quality Auditor.

Certi-label™ products have been tested to meet these recognized standards:

- **Class A, B and C fire-resistance**
- **UL 2218 Class 3 & 4 impact resistance**
- **UL 1897 (fourth edition) wind uplift**



tel: 604-820-7700 fax: 604-820-0266 www.cedarbureau.org



See us at the AIA National Convention, Booth #1373

Certi-label™ products. Always tailor made.



New, improved Hi-Abuse® and Hi-Impact® BRAND XP® Wallboard.
Going where other wallboards fear to venture.

Hi-Abuse XP – mold/abuse resistant – Features a rugged gypsum core wrapped in heavy abrasion-resistant paper. Resists surface abuse as well as mold. Ideal for walls and ceilings in high-traffic areas including classrooms, cafeterias and day care centers.

Hi-Impact XP – mold/moisture/abuse/impact resistant – Combines the same surface toughness and mold resistance of Hi-Abuse XP with the added performance characteristics of impact and moisture resistance. The choice for hospitals, prisons, public housing and other areas requiring exceptional durability and longevity.

National 
Gypsum®

TECHNICAL INFO: 1-800-NATIONAL

nationalgypsum.com

Excellence Across The Board®

CIRCLE 117 ON READER SERVICE CARD OR GO
 TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/
 T1-EB004

Born Again: A New Skin Offers a Fresh Start

THE RECLADDING OF THE RICHMOND, VIRGINIA, CITY HALL IS AN INVESTIGATIVE STUDY OF THE INTIMATE RELATIONSHIP BETWEEN ARCHITECTURAL DESIGN AND THE LIFE EXPECTANCY OF MATERIALS

By Sara Hart

Although there are no hard numbers, anecdotal evidence suggests that, in particular circumstances, curtain walls age faster and more painfully than the rest of a building. It seems that they're coming unglued, so to speak, with increasing regularity. As many of the curtain walls of 1960s and '70s high-rises begin to show signs of deterioration, owners must weigh the costs of the many reparative options available, and they must enlist design experts to determine the best course of action. The problem is becoming pervasive enough that facade consulting is a growing multidisciplinary specialty in the architecture profession.

Built in 1970, the Richmond, Virginia, City Hall houses the staff and administrative offices of the city government, mayor, city council, and school administration, as well as offices for 18 departments and agencies; it is home to more than 800 employees. The building had served the community well for 27 years, but in the mid-1990s, the city discovered that the facade was losing its structural integrity at a steady and alarming rate.

In 1997, Richmond commissioned a team of consultants led by Fred Ortiz, AIA, of Scribner, Messer, Brady & Wade Architects (SMBW) of Richmond, and Daniel Lemieux, AIA, of Wiss Janney Elstner (WJE), of Fairfax, Virginia, to identify the extent of damage and devise a plan to revive the building and the city hall's image as expressed



Before and after: Richmond City Hall got a new and improved identity when its deteriorating marble facade (right) was replaced with one of granite and aluminum (left).

in its architecture. Thus began a four-year effort involving forensics, emergency remediation, cost analysis, facade removal, redesign, and replacement.

This kind of commission appears to be a backward approach to architectural design, and not every architect's cup of tea. Not only does the architect start with someone else's design, it is a design that has failed to a greater or lesser degree, with serious consequences. And yet, there are regionally committed practitioners who feel a civic obligation to aid urban revitalization. "The City Hall project resonated with the core value of our practice," says Willard Scribner, FAIA, principal of SMBW Architects. "In an era when cities throughout Virginia and the Southeast face pressing infrastructure needs and declining resources, we seek ways to help address these needs through design excellence, innovative strategies, and funding vehicles."

The following story is based primarily on the study prepared by WJE for SMBW, which eventually led to a new architectural image for Richmond. As part of the study, SMBW and WJE's project team reviewed all the available documentation regarding the original design and its construction, repairs, and renovations over the years, and routine maintenance. Next, they performed an on-site survey to verify the as-built construction of the building, including materials, components, and systems. They found that the infrastructure was functional and in relatively good working order, but that the marble panels of the building envelope were not. As a matter of fact, cupping/bowing, edge-cracking, and other conditions were visible in many of them.

The city hall is a marble-clad rectangle with a tower that rises from the center of a four-story plinth that is divided into quadrants. The tower is a straightforward, uniform structure, articulated by perimeter

CONTINUING EDUCATION

Use the following learning objectives to focus your study while reading this month's ARCHITECTURAL RECORD/ AIA Continuing Education article. To receive credit, turn to page 268 and follow the instructions. Other opportunities to receive Continuing Education credits in this issue include the following sponsored sections: "Factors for Achieving Water Conservation Excellence," sponsored by Sloan Valve, page 284; "Greater Vision: Alternate Window Materials in Commercial Buildings," sponsored by Pella, page 293; and "The Art of Product Research and Selection," sponsored by Sweets, page 299.

LEARNING OBJECTIVES

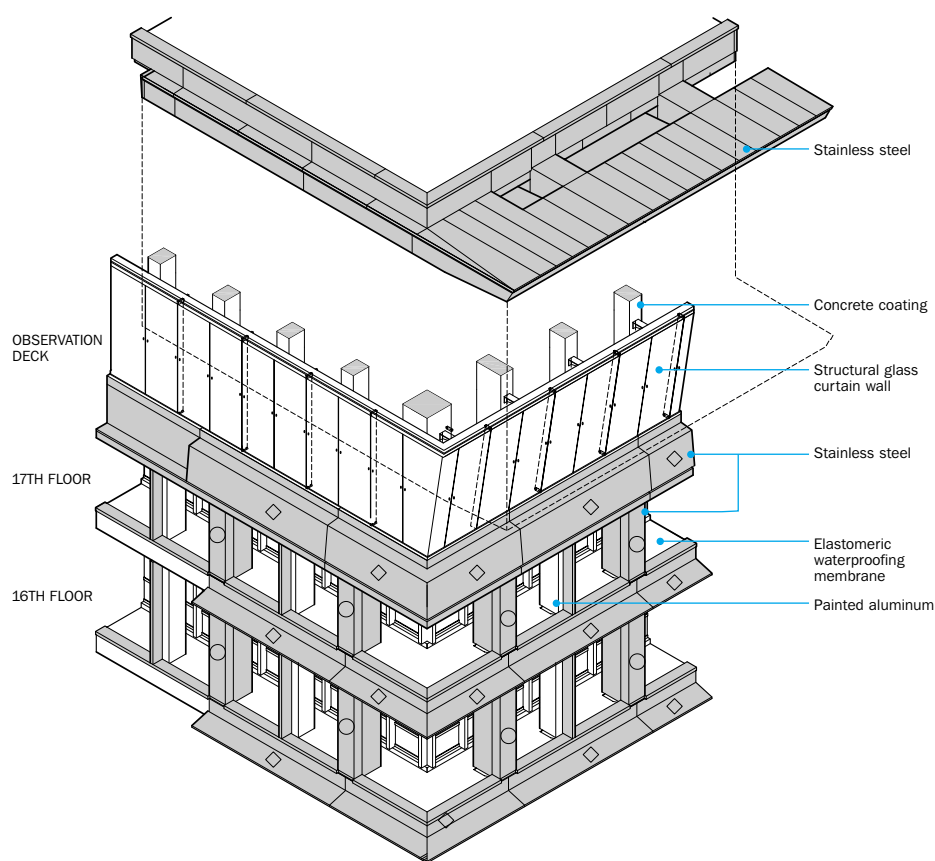
After reading this article, you should be able to:

1. Describe possible problems with marble veneer buildings.
2. Explain the cause of the problems with marble veneers.
3. Discuss the various remedies for buildings with veneer problems caused by environmental conditions.

For this story and more continuing education, as well as links to sources, white papers, and products, go to www.architecturalrecord.com.



The new aluminum-clad observation deck (left) replaces the prior one (below). The original window frame enclosed only three quarters of the opening and was topped off with a “suicide hook”—bent stainless-steel square rods with a sharpened point. The new windows are thoroughly glazed. Panels are hung from vertical aluminum-rail brackets anchored to the concrete column (bottom).



TOWER SOUTHWEST CORNER COMPONENT ASSEMBLY AT OBSERVATION DECK





A stainless-steel capital tops the painted concrete column (left and opposite, top) fronted by granite cladding. The diagram at right shows how the structural system at the perimeter works.

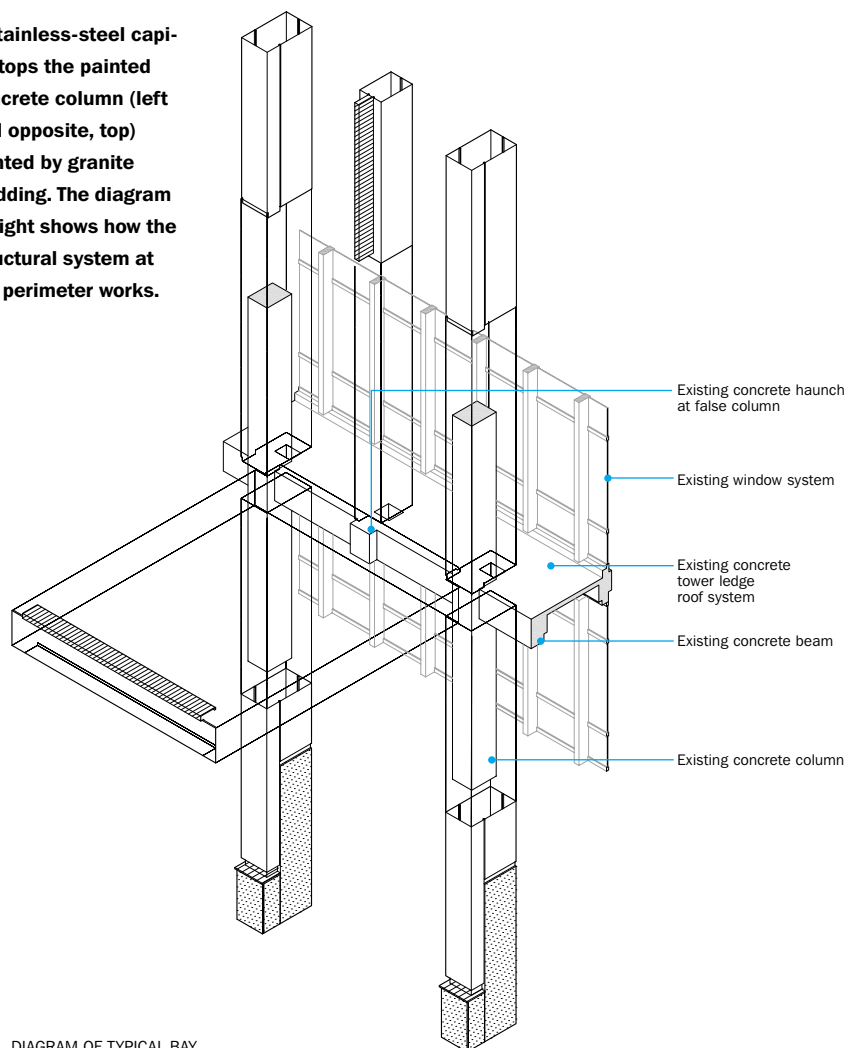


DIAGRAM OF TYPICAL BAY

columns that are detached from the exterior curtain-wall system so that the fenestration appears to be made up of deeply recessed windows.

The problem

The thin marble veneers that cover the entire structure were the problem. Microscopically, certain marbles are composed of a series of tightly interlocked, crystalline calcite grains that are adhered together with a calcite binder. Changes in temperature wreak havoc on this type of structure by causing intergranular fractures, or microcracking, in the calcite binder. The grains within the binder “disassociate,” meaning they come apart. This constitutes a permanent change in the material properties of the marble, which causes a volumetric expansion. And the march toward deterioration begins. This condition is known as *hysteresis*, and it’s as bad as it sounds.

Hysteresis is especially threatening to thin marble veneers, a popular cladding material in the 1970s. Not only are the panels of Georgia white marble on the city hall thin, they have a coarse grain, which makes them more prone to hysteresis than fine-grain marbles, such as Vermont marble.

In hysteresis, individual panels will deteriorate at different rates, depending on the extent of exposure to temperature changes. Obviously, the exterior faces, which are exposed to sunlight and weathering, will experience hysteresis more than the protected, interior areas. Because the exterior surfaces therefore deteriorate faster, the panels will cup and bow outward. Severe weathering will cause visible cracking at the panel edges. As the bowing gets worse, moisture penetration increases, and the cracks

in the exposed panel surfaces open up more.

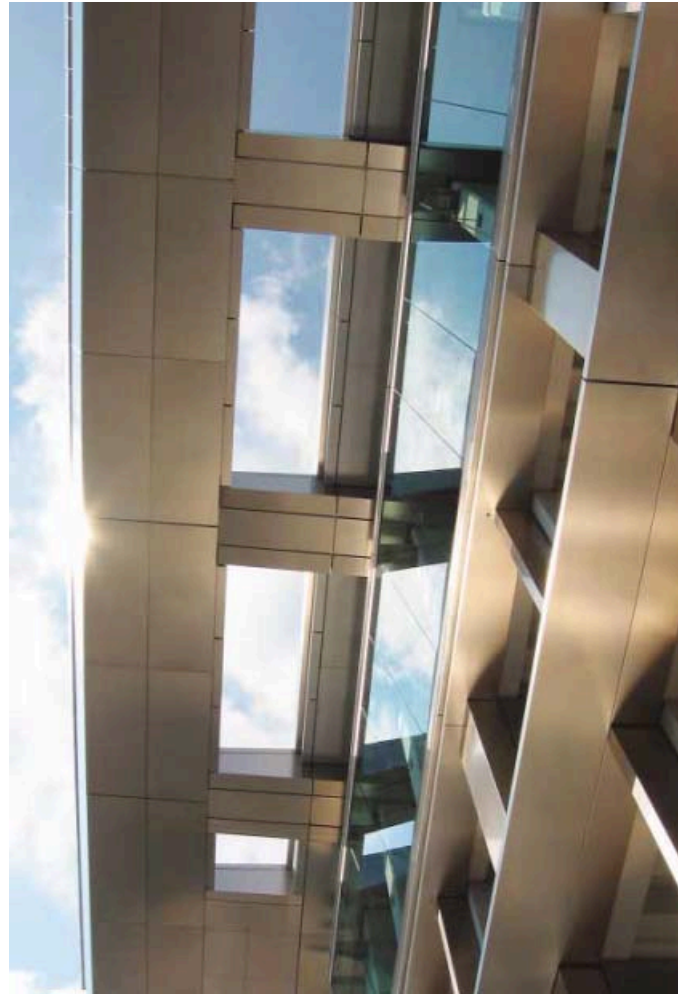
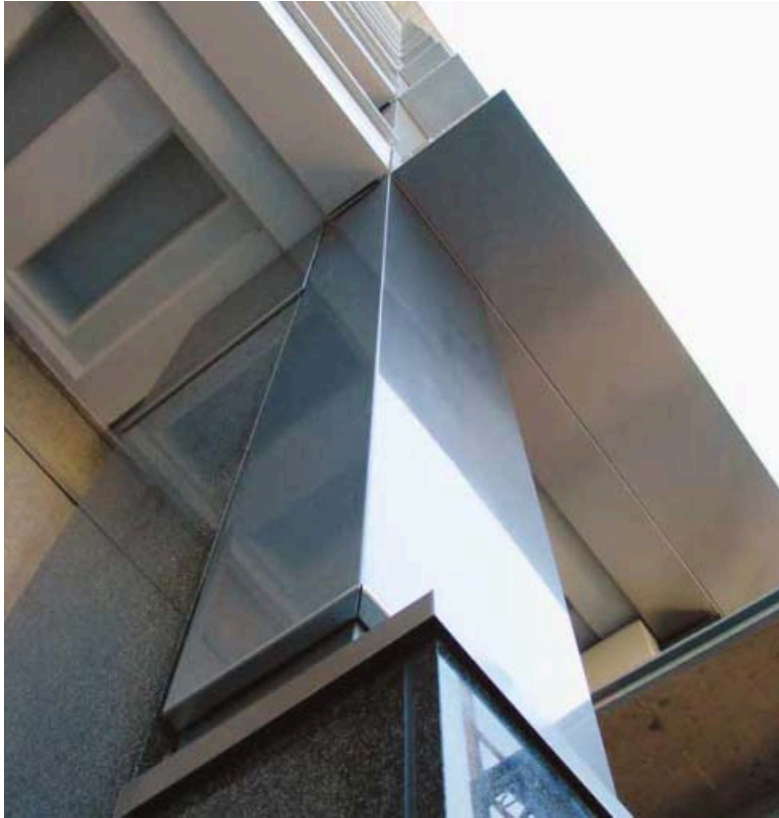
In cities, acid rain can accelerate the dissolving of the calcite binder, which increases the rate of disaggregation of the stone. Disaggregation is also known as “sugaring,” due to the loose, powdery calcite grains that appear on the exposed surfaces when this happens. This leads to more edge-cracking and distress within the panels, which, in turn, leads to significant strength loss in the stone.

For the past 30 or 40 years, hysteresis has been acknowledged as a serious condition affecting marble, but its effect on thin stone veneers was not widely known at the time Richmond City Hall was designed and

FOR 30 OR 40 YEARS, HYSTERESIS HAS BEEN ACKNOWLEDGED AS A SERIOUS CONDITION AFFECTING MARBLE.

built. Today, it is generally accepted that hysteresis is what might be called a terminal disease for thin marble veneers, since it can neither be reversed nor cured. Once the disease has reduced the flexible strength of a marble panel to between 400 and 600 psi (1,000 psi is the current minimum industry standard), the structural integrity of the stone has probably been forever lost, and in situ repair or stabilization is no longer a viable option. Eventually, the panel will become so fragile that it will become dangerous to leave it on the building. This was the case with Richmond City Hall, as the SMBW and WJE study reported.

Horizontal fins on the southern face of the building (below) will help reduce direct sunlight and heat gain. An aluminum overhang (right) mimics the cornice lines of neighboring buildings.



Buying time

In October 1995, before WJE and SMBW entered the picture, a temporary solution was implemented in the name of public safety. Five thousand fiberglass straps and corner supports were installed around the envelope to ensure that the marble panels stayed in place. “While the straps prevented shards of marble from falling to the sidewalks below,” explains Scribner, “they restrained thermal movement, which caused further bowing of the panels and accelerated the deterioration process.” It couldn’t have come as

THE PANEL WILL BECOME SO FRAGILE THAT IT WILL BECOME DANGEROUS TO LEAVE IT ON THE BUILDING.

a huge surprise that over the years the deterioration continued, and new cracks developed that again raised serious concerns about public-safety issues and called for a genuine architectural solution.

This is why, in September 1997, SMBW and WJE were called to study the situation further and search for a long-term solution. After the forensic part of their study was concluded, the team suggested immediate short-term mitigation for the different areas of the complex to complement the fiberglass-strap treatment. The marble panels in question are of two thicknesses. The tower’s fascia and soffit panels are 2 centimeters thick, while the quadrant panels are 3 centimeters. The panels range in size from

6 to 18 square feet, depending on location, and are supported by different types of dead load anchors and “hairpin” anchors, many of which had become disengaged, or at least were observed to be overstressed.

Whereas the study was detailed and comprehensive, only a summary of the final recommendations can be included here. With regard to the quadrants, the study concluded that laboratory-tested marble samples had higher flexural strength, and panel substrates and anchors were in better shape than other areas of the building. It therefore recommended that temporary pinning/stabilization was a viable, short-term solution, with the added recommendation that visual inspections be frequent.

The tower, however, was more vulnerable to failure due to strength loss evidenced by bowing and edge-cracking. Consequently, the pinning/stabilization recommended for the quadrants was not an option. SMBW and WJE insisted that the worst panels be removed immediately. In this instance, they recommended that they be temporarily replaced with a fully anchored exterior-grade plywood or similar weather-resistant material, painted to match existing marble, and sealed to resist moisture penetration. As with the quadrants, the study recommended frequent close-range surveillance.

The options

With the immediate crisis resolved, it was time to pursue a design strategy for the total recladding of the tower and quadrants. Due diligence

HER PARENTS CHOSE
THE INSULATION CERTIFIED* FOR BETTER INDOOR AIR QUALITY.
SO THEY'RE SLEEPING SOUNDLY, TOO.

*Certified by the GREENGUARD Environmental Institute as a low emitting product for better, cleaner indoor air quality.
The GREENGUARD INDOOR AIR QUALITY CERTIFIED mark is a certification mark used under license through the GREENGUARD Environmental Institute.
THE PINK PANTHER™ & ©1964-2005 Metro-Goldwyn-Mayer Studios Inc. All Rights Reserved. The color PINK is a registered trademark of Owens Corning. ©2005 Owens Corning.

It's not surprising that people concerned about the quality of the air in their homes choose Owens Corning. PINK FIBERGLAS® Insulation is certified* for better indoor air quality by the GREENGUARD Environmental Institute.™ But it's also the choice of people concerned about the quality of our planet's air, because PINK FIBERGLAS Insulation reduces energy consumption. And that reduces the production of greenhouse gases. PINK FIBERGLAS Insulation even contains the most recycled glass of any insulation. Oh, and it saves money on energy costs. No wonder people feel comfortable choosing Owens Corning PINK FIBERGLAS Insulation. For more information, call **1-800-GET-PINK** or visit **www.owenscorning.com**.



INNOVATIONS FOR LIVING™

ACOUSTICS

INSULATION

MANUFACTURED STONE VENEER

ROOFING

SIDING



CIRCLE 118 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

TlFe0004

Several features distinguish the new cladding (right) from the old. The nonstructural columns in the original marble-clad envelope (far right bottom) were removed in order to open up the corners in the new scheme (far right top).



required that the architects study every material option. Material durability, service life, serviceability, aesthetics, exposure, cost, and relative constructability were the important factors for consideration. They researched granite, limestone, lightweight natural stone panels, architectural precast concrete/cast stone, glass-fiber-reinforced concrete (GFRC), precast-polymer concrete panels, exterior insulation and finish systems (EIFS), aluminum composite panels, and solid aluminum panels.

Each material had advantages and disadvantages, and with the right detailing, any of them could have performed well. However, the architects were focused on only one application—the envelope of Richmond City Hall. Therefore, they limited their judgments to the unique conditions presented in this particular case. As narrowly focused as they were, each material was studied carefully and its attributes and shortcomings were documented in the study. For instance, granite has a higher minimum compressive and flexural strength, which resists the effects of hysteresis, making it an excellent choice with regard to durability and long-term performance. Limestone has these qualities, as well, but requires a greater thickness to meet acceptable safety factors. Lightweight stone panels are relatively new to the architectural industry and were created as an alternative to high-cost natural stone. The typical panel is a thin layer of natural stone and epoxied aluminum honeycomb, which provides structural stability.

Precast concrete/cast stone is durable and less expensive than

natural stone and can be formed to many different sizes and shapes and colored, or else finished in a wide range of textures. GFRC is similar to precast. The fiberglass reinforcing supplements or replaces steel reinforcing, thereby reducing the dead load by up to 75 percent. Precast-polymer concrete panels use polymer in addition to or instead of Portland cement. The type of polymer used is an important consideration, especially when freeze-thaw conditions are a determining factor. EIFS are a multicomponent exterior wall systems, consisting of insulation board with a base coat

DUE DILIGENCE REQUIRED THAT THE ARCHITECTS STUDY EVERY REASONABLE MATERIAL OPTION.

reinforced with glass-fiber mesh, an adhesive or mechanical attachment device, and a finish coat to protect the entire system. Aluminum composite panels are similar to lightweight natural stone panels. Solid aluminum panels are also lightweight and durable and can be detailed for simple installation.

The proposal

All of these options were presented to the city with recommendations for or against their appropriateness. For the purpose of a design study, SMBW suggested that they proceed with a granite and aluminum com-

RETHINK PRECAST.



Photo courtesy of COSI

CIRCLE 119 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

High lets you take precast design farther than you ever dreamed possible. That's why internationally renowned architect Arata Isozaki relied on precast concrete to meet the unique challenges of the striking Center of Science and Industry (COSI) in Columbus, Ohio. High's unparalleled commitment to new technology and innovation has led to advancements such as carbon fiber reinforced CarbonCast™—precast that's stronger, lighter and more durable, allowing a virtually unlimited selection of colors, textures and

finishes at no additional cost. And the 15'-wide MEGA-Tee deck system enables wider spans and more open plans in total precast buildings and parking garages. Cutting-edge structures like COSI are possible with High's expert technical assistance in all phases of a project, from design to erection. High gives architects the flexibility to explore unique solutions while ensuring a job is completed on schedule and on budget. Call High to learn more about how to rethink precast.



HIGH CONCRETE ■ CONCRETE INNOVATIONS & ANSWERS™ ■ CALL US AT 800-PRECAST ■ WWW.HIGHCONCRETE.COM

TlFeBOOH

posite metal (ACM) combination. (Although an in-kind replacement of marble with granite would be the most straightforward solution, it would also be the most expensive.) Granite panels proved to be the best stone alternative within the structural loading criteria, for unlike marble, it resists the effects of hysteresis, making it an excellent choice with regard to durability and long-term performance. ACM is cost-effective and as durable as a solid aluminum panel when correctly installed. It is fabricated from coils of predetermined widths, so more money can be saved by dimensioning the panels to minimize waste. The metal is coated with a high-performance paint, but SMBW recommended a metallic finish to reveal the material's nature.

SMBW developed a strategy for optimizing the visual effect of the granite by limiting its use. Although seemingly contradictory, this approach resolved many issues. Granite would be applied at the quadrant levels and the council chambers, where it could actually be seen from ground level. Aluminum would replace granite on the tower, thus avoiding having to hang granite panels from wires, which were the typical soffit conditions. Furthermore, the column enclosures in the tower, clad in marble, could be reduced by 35 percent in perimeter size, because they only enclosed the m/e/p systems, not the structure. In addition, corner columns could be removed entirely, improving views from corner offices. Finally, the new scheme included a projection at the roof line on the building's front to create a



New lighting at the observation deck will be turned on at night, allowing the city hall to glow like a beacon in the skyline.

cornice, which would be more architecturally in tune with the cornice lines of surrounding buildings.

SMBW project manager Fred Ortiz summarizes the effects of their efforts: "We took advantage of reskinning the building with a new image in mind that was progressively Modern in nature while sensitive to Richmond's traditional past and fast-changing urban context. The new face will redefine the tower's presence on downtown's main thoroughfare and mark the skyline in distinct fashion. It's a new beginning." ■



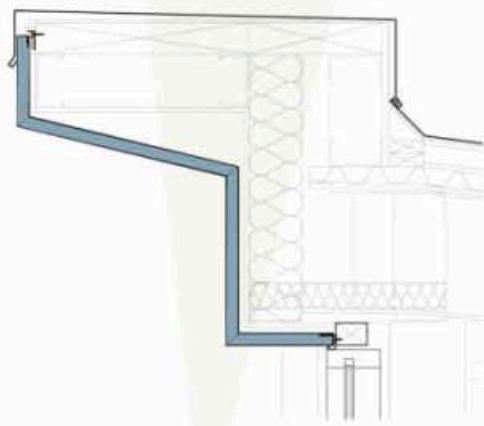
AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

INSTRUCTIONS

- ◆ Read the article "Born Again: A New Skin Offers a Fresh Start" using the learning objectives provided.
- ◆ Complete the questions below, then fill in your answers (page 378).
- ◆ Fill out and submit the AIA/CES education reporting form (page 378) or download the form at www.architecturalrecord.com to receive one AIA learning unit.

QUESTIONS

1. The problem of curtain walls having hysteresis is prevalent in which group of buildings?
 - a. all buildings from the 1960s and '70s
 - b. all buildings with a thin marble veneer
 - c. all buildings with a natural stone veneer
 - d. marble-veneer buildings with calcite grains and a calcite binder
2. Disaggregation of stone is also known as which?
 - a. cracking
 - b. hysteresis
 - c. sugaring
 - d. expansion
3. Hysteresis, which is an incurable condition caused by changes in temperature, can be visually detected by all except which?
 - a. marble panels will be cupped
 - b. marble panels will show cracked edges
 - c. marble pieces will fall off the building
 - d. marble will change to a darker color
4. Hysteresis is caused by which?
 - a. cutting fine-grain marble into thin veneer
 - b. microcracking in the calcite binder
 - c. loss of strength in the marble panel
 - d. moisture penetration at bowed edges of the marble panel
5. What causes the acceleration of hysteresis?
 - a. temperature changes
 - b. exposure to weather
 - c. extremely dry weather
 - d. a and c
6. Which material is most prone to hysteresis?
 - a. thin marble veneer with fine grain
 - b. thin granite veneer
 - c. thin marble veneer with coarse grain
 - d. thin limestone veneer
7. Glass-fiber-reinforced concrete uses fiberglass instead of steel reinforcing, resulting in which benefit?
 - a. reduction of dead load up to 50 percent
 - b. reduction of dead load up to 75 percent
 - c. reduction of freeze-thaw concerns
 - d. increased stability
8. What material was used for the temporary replacement of the tower panels after the problem was discovered?
 - a. fiberglass panels
 - b. aluminum sheets
 - c. exterior-grade plywood
 - d. polymer concrete panels
9. Which is true for both marble and granite?
 - a. they are natural materials
 - b. they show the signs of hysteresis
 - c. they can be mined in the U.S.
 - d. they show color variations
10. Which was not an advantage of changing the tower cladding from marble to aluminum?
 - a. column enclosures could be reduced in size
 - b. corner columns could be removed
 - c. material waste could be minimized
 - d. the original look could be maintained



PROJECT: Fredericksburg Academy

ARCHITECT: Cooper Carry, Alexandria Virginia

FABRICATOR/SYSTEM: W. H. Stovall | Root and Return Gasket 175

PRODUCT: ALPOLIC's Silver Metallic

MAKING THE GRADE IS EASIER THAN EVER WITH ALPOLIC®

In fact, ALPOLIC® Aluminum Composite Materials (ACM) don't just make the grade, they pass with flying colors. That's why ALPOLIC's Silver Metallic ACM, (more than 8,600 square feet of it) was the choice for a recent cladding job at Fredericksburg Academy in Fredericksburg, Virginia. The focal point of the building combines radius, straight and tapered panels, creating a monumental appearance and a unique architectural statement on the modernization of educational facilities in Virginia. The industry's worldwide leader in innovation, ALPOLIC® offers Aluminum and Metal Composite Materials of unrivaled durability, superior flatness, rigidity and lightness of weight, yet amazing flexibility and ease of fabrication. Combine all that with ALPOLIC's great looks and virtually limitless range of finishes and it's clear that ALPOLIC® is in a class by itself. For more information, call 1-800-422-7270 or visit us at www.alpolic-usa.com.

ALPOLIC®
Reflecting The Future, Today.

©2005 Mitsubishi Chemical America, Inc. All Rights Reserved.

A Member of the Coroplast® Family



CIRCLE 120 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/ALFe800H

Trespa Meteon®: The Head of Its Class.



Project Architect: Legat Architects,
Construction Manager: Gilbane Building Company
© Paul Rivera/archphoto 2004

Erik Andersen, Architect
HOK Chicago

"Meteon is everything an architect wants—environmentally friendly, durable, economical and aesthetically expressive with a wide selection."

David Buckley, Specifier
HOK St. Louis

"Trespa Meteon is a really attractive solution that meets sustainability criteria that many projects require."



All the best qualities in one panel



Trespa Meteon® is an especially appropriate building material for learning facilities because years of research, expertise and

knowledge went into its development. The result is a truly state-of-the-art exterior facade. Architects at HOK specified Meteon to give William Rainey Harper College in Palatine, Illinois a "high-design" look that's weather resistant, colorfast, impact resistant and easy to clean—even with organic cleaners and detergents. Meteon is also ideal for fascias, sandwich panels, storefronts, soffits, balconies and balustrades and is available in a wide range of colors, textures and patterns.

Make the educated choice. Choose Trespa Meteon.
Call 800-4-TRESPA today for more information.

www.TrespaNorthAmerica.com

CIRCLE 121 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

TlFe800H

RANDOM FACE PATTERNS

THERE'S MORE TO THIS RETAINING WALL THAN MEETS THE EYE.

GOOD LOOKS ARE ONLY PART OF VERSA-LOK MOSAIC'S STRENGTH. Behind the handsome face of Mosaic retaining walls lies another secret to VERSA-LOK's success: it's the only solid, top-pinning system in the industry. With Mosaic, you not only get stunning random-pattern walls with an artistic flair, but structural integrity and easy installation as well.



Mosaic's random pattern creates visual appeal.

When you want that distinctive, historic texture without waiting 300 years, specify Mosaic's Weathered option. Weathered Mosaic displays a natural, vintage appearance without compromising strength. VERSA-LOK Weathered walls not only look as if they've stood the tests of time, they will!

MODERN MARVEL No.26
RANDOM FACE PATTERNS

TWO PRODUCTS, ENDLESS POSSIBILITIES. In addition to the hard-working random-pattern Mosaic product, VERSA-LOK Standard remains the most versatile retaining wall unit on earth.

Marvelous curves, corners, stairs, freestanding walls, and columns are all easily constructed using VERSA-LOK Standard — without any

specialty pieces to worry about.

It all boils down to this: You can do more, and do it easily — with VERSA-LOK.



VERSA-LOK is the industry's only solid, top-pinning system.

WITH VERSA-LOK, IT DOESN'T TAKE A MIRACLE TO CREATE A MARVEL.

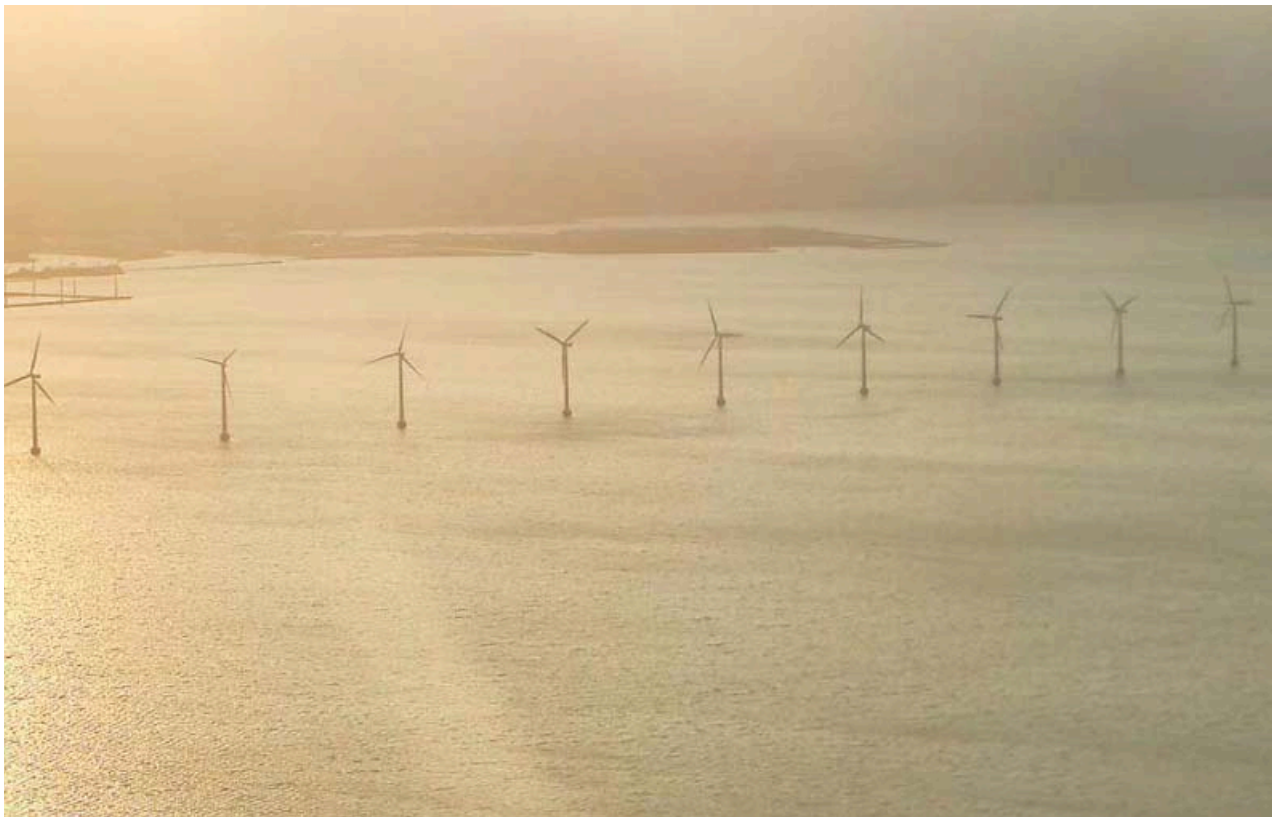
For more information and everything you need to start creating modern landscaping marvels, call 800-770-4525 or visit www.versa-lok.com.



Private Residence,
Scandia, Minnesota,
in VERSA-LOK
Weathered Mosaic

VERSA-LOK®
Retaining Wall Systems
Solid Solutions.™

Oakdale, Minnesota
800-770-4525 • www.versa-lok.com



Tall, but never more powerful than their environment, turbine blades turn gracefully to the rhythms of the wind. At the Kattegatt waterway between Denmark and Sweden (left), turbines are visible from various vantage points in Copenhagen harbor.



A Mighty Wind is Blowing Across Land and Sea

THE WIND POWER INDUSTRY IS ROBUST, THERE IS ABUNDANT AND DETAILED INFORMATION READILY AVAILABLE, AND THE POTENTIAL FOR CLEAN, ENDLESS ENERGY HAS NEVER BEEN MORE ATTAINABLE

By Barbara Knecht

In the 1920s and 1930s, electric radios were the primary form of entertainment and access to news, including FDR's fireside chats. However, only about 10 percent of America's farm families had electricity from a central source. In order to sell radios, the manufacturers sold small wind turbines to generate electricity to power the radio, as well as a few electric lights. Perhaps a million small turbines dotted the landscape of rural America during the Depression. In 1936, FDR created the Rural Electrification Administration to run power lines to family farms. Eighty years later, the American wind industry has been resurrected, and wind is the fastest growing energy source worldwide,

Barbara Knecht is an architect and journalist based in New York and Boston. She contributes to RECORD regularly on building science and related technologies.

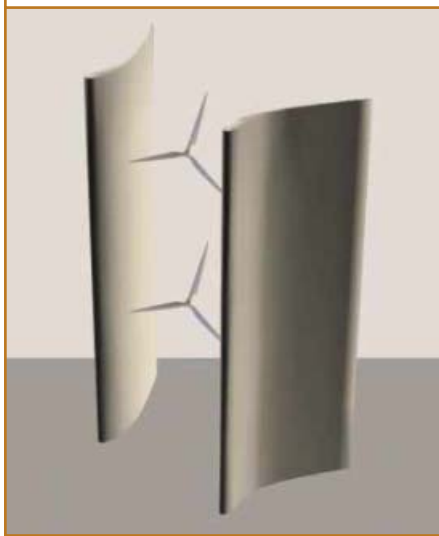
For this story and more continuing education, as well as links to sources, white papers, and products, go to www.architecturalrecord.com.

expanding at a rate of 32 percent annually.

Windmills or turbines are the opposite of fans. A fan uses electricity to create wind; a turbine uses the wind to create electricity. Wind turns the turbine blades, called aerofoils, which spin a shaft that drives a generator that makes electricity. Electricity generated by turbines is measured in kilowatts (kw) and megawatts (mw). Turbines are rated by their peak power; actual production is less, as a result of varying wind speeds. Consumption is described by energy, a function of power and time. Germany is the leader, with 14,609 mw of installed power, and the U.S. is second with 6,347 mw. One mw is enough to supply 250 to 300 average American homes. Tiny Denmark (population 5.4 million) produces 3,110 mw of pollution-free power from the wind. Denmark's Wind Industry Association (www.windpower.org/en/core.htm) aims to supply 50 percent (16 billion kilowatt hours [kwh]) of its consumption by 2025, while the U.S. Department of Energy (DOE) has set 5 percent (250 billion kwh) as a goal for the U.S. by the year 2020.

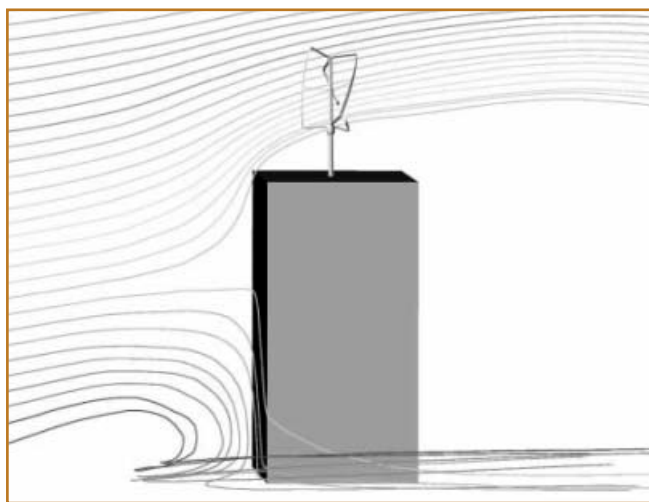
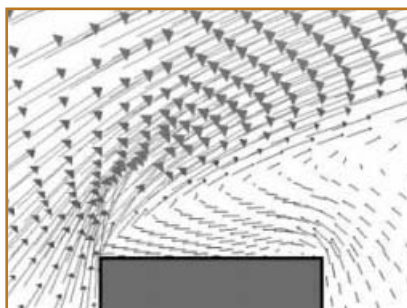
Wind Energy in the Built Environment

Sander Mertens, who was aerodynamic engineer of the Turby wind turbine while a researcher at the Technical University of Delft, created these diagrams to show how buildings can be designed so that wind harvest is maximized.



Example of shrouded horizontal wind turbines—wind turbines between airfoil-shaped buildings. Such building shapes are able to accelerate the wind speed for certain wind directions. The wind turbines in the accelerated wind speed thus show an increased energy yield compared to bare turbines.

Velocity vectors around a sharp-edged flat roof found by a Computational Fluid Dynamics calculation. Note that the vector length and accordingly the velocities close to the roof are small and partly directed toward the wind. A wind turbine has to be sited carefully in this region with low velocities, however, because the region experiences high turbulence, as well.



Streamlines of the flow around a sharp-edged flat roof found by a Computational Fluid Dynamics calculation. The boundary separates at the upwind roof edge, and the main flow around the roof is deflected. The wind turbine is the vertical axis wind turbine called Turby, which is specially designed for application in the built environment and on roofs.

Windmills, or turbines, have evolved a long way from the stumpy but picturesque multibladed wood-and-brick structures so firmly symbolic of the Dutch countryside. Go to Holland (or the United Kingdom, Spain, India, Germany, Denmark, Sweden, Greece, Egypt, Japan, China, parts of Africa, California, Texas) today, and you will find soaring turbines with two- or three-bladed rotors made of materials such as steel, Teflon, and fiberglass, some reaching 300 feet in height.

Typically, the basic components of turbines include the blades, which are attached to a spinner or hub, and the gearbox and generator, which are housed in a covering called a nacelle. The controller and brake are also located within the nacelle (see diagram, page 278). New products are invading the market, including direct-drive machines that eliminate the gearbox and longer, stiffer, more slender blades of lightweight material, such as carbon fiber. Turbines typically have a minimum operating speed, called the cut-in speed, around 7 to 9 mph, as well as a maximum, or cut-out, speed, typically around 55 mph. These are characteristics of utility-scale turbines found singly or in groups by the dozens or even hundreds in wind farms or parks. They are also known as wind-power plants and are found on land or, commonly in Europe, offshore, where winds are plentiful and unobstructed, and space for the turbines is readily available.

In spite of all these advances to harvest free energy, the U.S. still produces more than 50 percent of its electricity from coal, 20 percent from nuclear, and 16 percent from natural gas. Only 7 percent comes from hydropower, and under 1 percent from renewables such as sun and wind. That the cost of producing electricity with wind power has plummeted is an encouraging sign, but cost comparisons are tricky. Conventional fossil-fuel sources are heavily subsidized. However, experience in Europe and the U.S. proves that utility-scale wind farms can produce electricity that costs virtually the same as fossil fuels, which is about 3 to 5 cents per kwh. Small-scale wind-collection systems are emerging and offer a lot of opportunity for thinking about building integration and urban applications.

Wind can't be supplied continuously the way fossil fuels, such as coal, can be fed into a furnace. When the wind doesn't blow, there is no energy produced. However, it doesn't take a lot of wind to run a turbine, and more and more researchers are figuring out how to design ones that will operate efficiently at low speeds and in turbulent urban conditions. Imagine a gentle breeze that rustles the leaves and causes a light flag to extend, and you can imagine a wind speed of 8 to 12 miles per hour, an optimum average speed to run most turbines. But the wind doesn't blow steadily, and a turbine can't produce at top capacity consistently, anymore than fossil-fuel plants can. Typical efficiency for a wind turbine is 25 to 35 percent, compared to 65 to 85 percent for a coal plant.

There are many levels of energy independence. California leads the U.S. with five large-scale wind farms with a 2,000 mw capacity. Compare that with the Princeton, Massachusetts, wind-power plant of 250 kw that produces 1 percent of the town's need. The typical size of an individual turbine in a wind farm is in the 1.5 mw range. In Toronto, Canada, the city has deposited a 750 kw turbine on the shore of Lake Ontario to serve about 250 homes in a dense urban setting. The town of Hull, Massachusetts, has a 660 kw turbine and plans for adding a second. In North Carolina, Chris Carter, owner of the Solar Village Institute, installed half a dozen residential-scale (2.5 kw) home-power electric systems last year, and in San Francisco, Pfau Architecture is in the final stages of planning department approval for four residential-scale (1 kw) turbines for the Lick-Wilmerding High School it completed last year. In the Netherlands, Core International is test driving Turby, a building-size turbine developed in conjunction with researchers at Delft University specifically to deal with the wind patterns in urban areas.

Wind advocates have stacks of testimonials and studies that refute all the arguments against wind power, with noise, aesthetics, and bird mor-

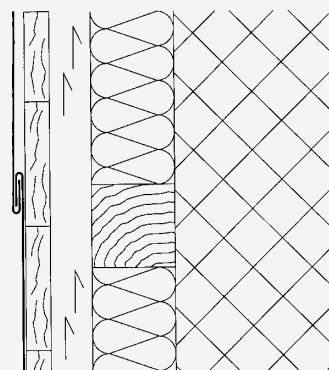


Loyalist College, Belleville, Ontario, Canada; Architect: Stephen Teeple Architects, Toronto, Ontario, Canada; Flat Lock Interlocking Wall Tiles; Fabrication and Installation: Semple Gooder, Toronto, Ontario, Canada

RHEINZINK® – The Material with a Future

RHEINZINK® is a titanium zinc copper alloy that is environmentally friendly with unmatched longevity and elegance, making it the ideal building material. With many detail variations possible, RHEINZINK complements both traditional and modern architecture. Curvilinear surfaces can be clad with ease due to the material's

natural flexibility. At RHEINZINK, we take great pride in our customer support, providing technical assistance to both architects and installers. With a large number of installers throughout North America and material stocked in several states, there is never a problem with material availability.



Please visit us at
AIA Las Vegas
Booth Number 2067
(May 19th - May 21st, 2005)



CERTIFIED BY THE
ASSOCIATION FOR
ENVIRONMENTALLY
PROOFED BUILDING
PRODUCTS NUMBER OF
CERTIFICATE Z.RHE102

RHEINZINK America, Inc., 955 Massachusetts Avenue, Suite 770, Cambridge, MA 02139
Tel. +1 (617) 871-6777, Fax +1 (617) 871-6780, E-Mail: info@rhein-zink.com, www.rhein-zink.com

CIRCLE 123 ON READER SERVICE CARD OR www.enr.construction.com/products/



REG. 2.890-4C-USA

Canada's first urban wind turbine was built by a partnership of Toronto Hydro Energy Services and the WindShare Cooperative on December 18, 2002. The turbine stands 30 stories tall and has the capacity to power up to 250 homes. Its 95-foot-long blades capture the wind, turning rotors that produce electricity. Locating wind turbines near the lakeshore allows the blades to capture the best wind production flowing over Lake Ontario with no obstructions. Electricity from the wind yields no emissions, no waste, and is 100 percent green.



tality rate perceived as the biggest drawbacks. With regard to the bird mortality, Toronto's expert ornithologist predicted, and has been proven correct, that two birds per year would be killed as a result of flying into its turbine on Lake Ontario. The Fatal Light Awareness Project (FLAP), a volunteer group in Canada with affiliate organizations throughout the U.S., cites far greater bird mortality from transmission towers and lines, domestic cats, and especially, lighted high-rise buildings. Turbines are huge, and apparently birds learn to fly around them, unlike well-lighted transmission towers and high-rise buildings, which attract birds.

Turbine noise comes from the blades passing through the air as the hub rotates, or from the gearbox and generator, which are housed in a nacelle mounted on top of the tower and attached to the rotor hub. With the new generation of turbine blade design and material and a well insulated nacelle, the noise is negligible. In Toronto, the turbine generates sound levels of 43 dBA, less than the average noise level in a home (50 dBA), a car running at 40 mph (55 dBA), or general office noise (60 dBA). So, noise is not an issue either.

Today's dilemma is not how to feed power to remote farms, but how to supply ever hungrier, densely populated areas. There is a lot of wind and open space in the middle of the country, but it's a long way from population centers. Distributed generation—putting the power sources near the centers of consumption to reduce transmission distances and costs—is the most efficient arrangement. Plenty of conventional power plants are located near urban areas, but they are not popular neighbors. In spite of a lack of open land and the erratic winds in urban areas, there is a lot of activity in the wind industry to bring pollution-free, renewable sources such as wind power into these areas.

Long Island spreads east from New York City and is just as big a power-hungry place. Sprawl has encroached on the farmlands on the east end, so there isn't a lot of open land for a wind farm. There is, however, a lot of coastline, and it is in the Atlantic Ocean south of Robert Moses State Park that Long Island Power Authority (LIPA) and its 30 collaborating organizations expects to construct a 40-turbine wind farm. The Long Island Offshore Wind Initiative (LIOWI) project has sailed fairly smoothly through rigorous public development and approval processes. It is well on its way to becoming the first offshore wind-energy park in the U.S. (Offshore farms are common in Europe, especially in Denmark, where land is scarce and ocean winds, favored for their unobstructed and consistent nature, are plentiful.) The LIOWI project will have about 40, 2 to 4 mw turbines that will generate enough power for 42,000 homes. A single cable buried 6 feet below the ocean floor will carry electricity from the turbines to a LIPA substation for distribution. Even at 200 feet tall, the turbines will blend into the haze of the horizon when located 2 to 6 miles from shore.

Not offshore, but right onshore, on a peninsula south of Boston, is the turbine in Hull, Massachusetts. Hull claims to have had a wind turbine to run its saltworks in the 1830s, but its first contemporary wind turbine was installed in 1985 and provided at least 30 percent of the power for the local high school until it was damaged beyond repair by a storm in 1996. It was replaced three years ago by a new, improved 660 kw turbine called Hull Wind I that is now three years old and powers traffic signals, streetlights, and on a windy day, 250 houses as well. Hull is now working on bringing in a second, wind-farm-size (1.5 mw) turbine. Farther inland, the town of Princeton, Massachusetts, has the distinction of having the oldest wind-power plant in the state, with eight turbines installed in 1984. In 2002, one of the old 40 kw turbines was replaced with a newer model 50 kw turbine. At 330 kw, it is hardly the scale of the Long Island project, but sufficient for a town with a population of 3,350 people.

You can't find a better example of distributed generation, where production and consumption are in the same place, than energy systems



**Pilkington introduces its newest
Fire Protection Glass
to protect people and valuables...**

Pilkington Pyrodur™

Specifically designed to meet your requirements for 20 minute applications.

The great advantage compared to the majority of other glass types in this class is that it also offers a bonus of better thermal protection during a fire.

- Available in 7 mm and 10 mm thickness
- Combinations with Low E and Solar Control glass
- Listed with Underwriters Laboratory (UL)
- Category I and II (ANSI Z97.1 and CPSC 16CFR1201)
- Short lead times through regional cutting stations

**For additional information, contact TGP at 800-426-0279
or visit TGP's website at www.fireglass.com**

Pilkington Fire Protection Glass NA
www.pilkington.com/fire



PILKINGTON

CIRCLE 124 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/
TLFe800H



Pfau Architecture is awaiting approval for four turbines for the Lick-Wilmerding High School that the firm completed last year in San Francisco.

that are integrated into building sites. Chris Carter, who installs solar and wind systems in the Southeast, says the small-wind industry is not growing by the leaps and bounds that large-scale wind is, but that those who do invest, mostly out of conviction rather than for fast payback, become converted to rethinking energy usage in all aspects of their lives. "In home systems, I always install the meter on the kitchen wall. When people see how fast it goes around, they change their habits just as quickly." The technology is also changing quickly. According to Carter, "We use lead-acid batteries, which, although highly recyclable, are extremely heavy. There are new types of batteries on the research horizon at the Department of Energy's National Renewable Energy Laboratories (NREL). They will be made from nontoxic materials like agricultural waste, for example."

Carter has installed residential wind systems made by Wind Turbine Industries, the manufacturers of Jacobs wind turbines, one of the companies that supplied family farms back in the 1930s. The other two major American residential manufacturers are Bergey Windpower and Southwest Windpower, according to principal Dwight Long of Pfau Architecture in San Francisco. Southwest will supply four turbines for the firm's recently completed Lick-Wilmerding High School's technology and design center, located on the western side of the city, where it benefits from unobstructed winds off the Pacific Ocean. According to Long, "The local community has been extremely supportive; they think the addition of the

turbines is a positive message for the neighborhood." The turbines are small at 50 feet, in keeping with the neighborhood height limitations, with a modest capacity of 1 kw each. Their function is as much a visible symbol for the school as an offset for electrical costs.

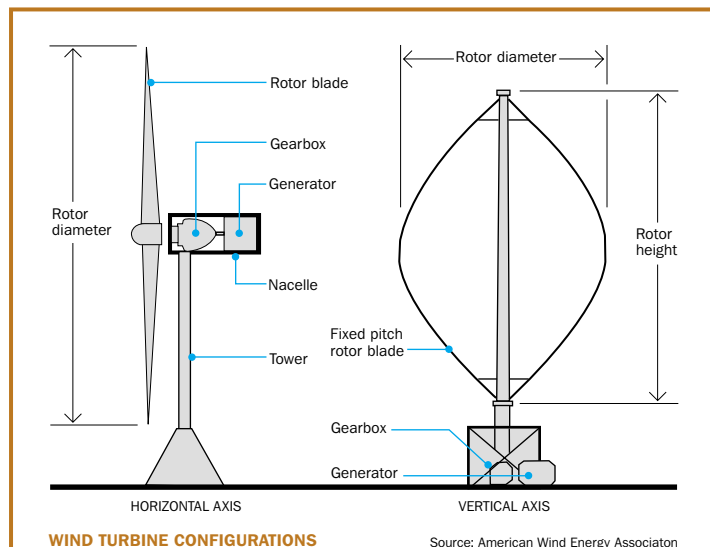
The planning department is reservedly supportive, with expected concerns for height, safety, and noise, all of which have been answered, and approvals are expected shortly. Shepherding wind turbines through local approvals is an ongoing obstacle. Gordian Raacke of Renewable Energy Long Island (RELI), one of the LIOWI partners, has made unification of codes one of his organization's priorities. "Not only are most codes unduly restrictive, the way they vary among small jurisdictions is enough to kill an industry. One of the things we are doing in Long Island is attempting to unify the codes to deal with alternate energy systems uniformly."

Lick-Wilmerding High School is located in a very dense urban environment but has characteristics of open, unobstructed sites. More typical urban settings have lower average wind speeds and complex wind flows that are, in part, a function of the buildings themselves. Right at the surface of a building, velocities may be quite high and direction changes abruptly. Turbines most typically, and all those so far described, are horizontal axis wind turbines (HAWT), in which the axis of rotation is horizontal with respect to the ground and parallel to the wind.

In the Netherlands, a team at the Technical University of Delft has been working on the design and development of Turby, a vertical axis wind turbine (VAWT) specifically for the complexities of urban conditions. In a VAWT, the axis of rotation is vertical with respect to the ground and more or less perpendicular to the wind stream. With a twist, Turby uses the principle of the well-known Darrieus vertical axis turbine. Professor Gerard J.W. van Bussel, one of the developers of Turby, explained another feature: "It was designed to be transported to a building rooftop without the use of a crane. It's a 2.5 kw turbine and weighs 90 kg (198 lbs). The heaviest part is the tower, but it is transportable in sections. You can take it up in an ordinary elevator and plug it in." The tower comes in two sizes, 16 feet (500 lbs) or 24 feet (925 lbs), which fold into sections that are no more than 7.5 feet long. It is currently installed on at least seven rooftops in Delft for final testing of the controls, which, like all contemporary turbines, are sophisticated computers. Although the group has not constructed any examples that integrate the turbine into a building design, another one of the researchers, Sander Martens, Turby's aerodynamic designer, has developed a number of design proposals that show ways it can be done to further take advantage of the higher velocities and particular conditions of wind forces at building surfaces.

The U.S. government is participating in the rapid development of the wind industry, though not nearly as substantially as most proponents say is needed. Tom Gray, deputy executive director of the American Wind Energy Association, the industry's trade organization (www.awea.org), noted the expert research undertaken in the Department of Energy's National Wind Technology Center (NWTC) (www.nrel.gov). The NWTC has set the U.S. goals and provides assistance and information through its Wind Powering America Program. On the other hand, the wind industry enjoys nowhere near the subsidies that fossil-fuel-driven plants do. And help such as the Production Tax Credit, which offers power producers a tax credit, has been allowed to expire three times since it was first enacted in 1992. At the end of 2004, it was extended again. On the individual scale, companies and individuals who produce enough renewable power that they are able to sell their excess back to the grid usually do so at the same rate they pay or, in some instances, at wholesale rates.

It will be interesting to see how wind generation will be incorporated into individual building, beyond the simple addition of a turbine in the back forty. ■



WIND TURBINE CONFIGURATIONS

Two types of turbines and typical subsystems for electricity generation are shown. The subsystems include a blade or rotor to convert wind energy to rotational shaft energy; a drive train with a gearbox and generator; and a tower that supports the rotor and drive train.

PAC-CLAD®

Petersen Aluminum

Metal Roofing Panels

It's difficult to improve upon the view of the Washington Monument and other icons comprising the DC skyline, but the newest landmark, the Mandarin Oriental Hotel, adds a dramatic entry to the capitol at the 14th Street Bridge.

This nine-story hotel is topped with a striking mansard roof utilizing 20,000 sq. ft. of PAC-CLAD® Redi-Roof Batten panels finished in Hemlock Green. The Mandarin Oriental is part of The Portals, a mixed-use development that is the largest project in the history of Washington, DC. Brennan Beer Gorman Monk Architects designed the luxury hotel in the French style while reflecting the city's iconic neo-classic architecture. The nearly vertical roof installation was done by Progressive Services, Inc., of Dover, PA.

Panels are corrective-leveled during fabrication to provide superior panel flatness. Our PAC-CLAD® Kynar 500® finish, covered by a non-prorated 20 year warranty, is now available in 42 standard colors on steel and 37 standard colors on aluminum.

For more information regarding our complete line of metal roofing products, please call us at 1-800-PAC-CLAD or visit our website @ www.pac-clad.com.

*Mandarin Oriental Hotel
Washington, DC
Architect: Brennan Beer Gorman Monk Architects
General Contractor: Armada Hoffer Construction
Roofing Contractor: Progressive Services, Inc.
Color: Hemlock Green
Profile: Redi-Roof Batten Panel*

Petersen Aluminum

1005 Tonne Road • Elk Grove Village, IL 60007
1-800-PAC-CLAD or 1-847-228-7150
Fax: 1-800-722-7150 or 1-847-956-7968

Other Plant Locations:

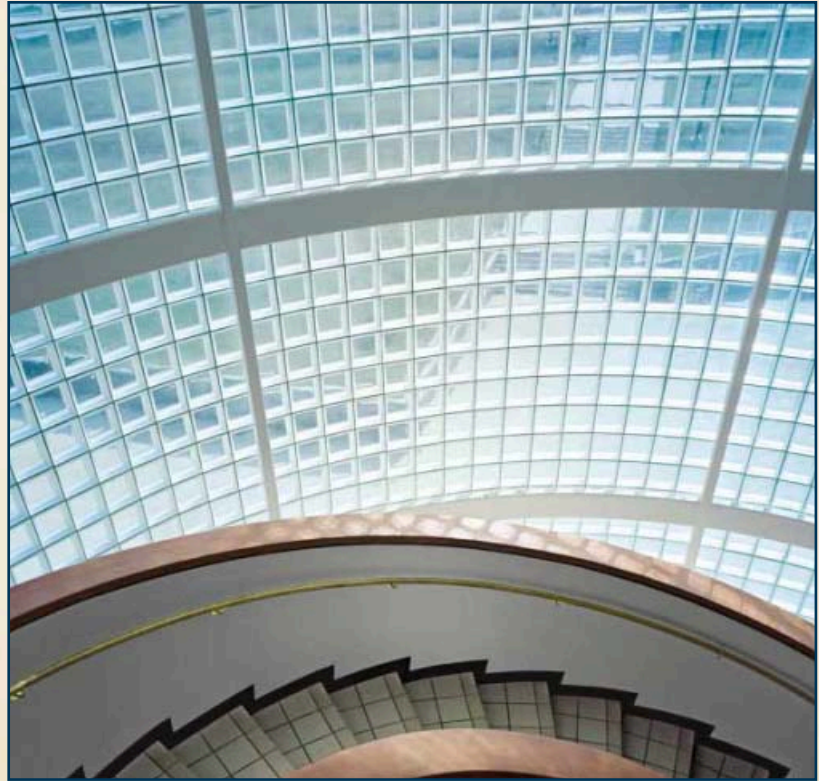
Annapolis Junction, MD: 1-800-344-1400
Tyler, TX: 1-800-441-8661; Kennesaw, GA: 1-800-272-4482
<http://www.pac-clad.com>

CIRCLE 125 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Rethink: Wall

Instead of dividing spaces, maybe it unites them. Instead of sealing out light, maybe it welcomes it in. When you have flexible materials, a wall can be whatever you want. That's why Pittsburgh Corning Glass Block comes in so many shapes and patterns. And it's easy to install, so it's a snap to make any space luminous. Feel free to rethink. You can count on us to help you shape what's new.

*At right, Lake Dallas High School, Texas
Architect: DMS Architects*



To see more examples of rethinking, go to www.pittsburghcorning.com/architects. Or call 1-800-624-2120, ext. 800.



Think again.

See us at AIA Booth #5156

CIRCLE 126 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/
TLFe800H

Tech Briefs

Projects: A museum for contemporary art contends with a tight site and poor soils • Standards: World's largest building owner poised to spur the adoption of interoperability standards

In Osaka, an iconic entry and sculpture mark the spot of a mostly underground museum

Commissions for art museums typically focus on form and image, but for the National Museum of Contemporary Art in Osaka, Japan, the design team had to create visual appeal while also addressing an unusual set of challenges in both planning and construction.

Designed by Cesar Pelli & Associates, the 145,000-square-foot building occupies a tight, irregular site on Nakano Island, in the historic heart of Japan's second-largest city. Restrictions imposed by both the national and local governments mandated a structure that was largely underground. This condition meant the architects were doubly challenged: first, to establish a visual identity for the largely invisible institution in a crowded urban landscape; and second, to tackle a complicated below-grade construction process at a site with a high water table and no bedrock.

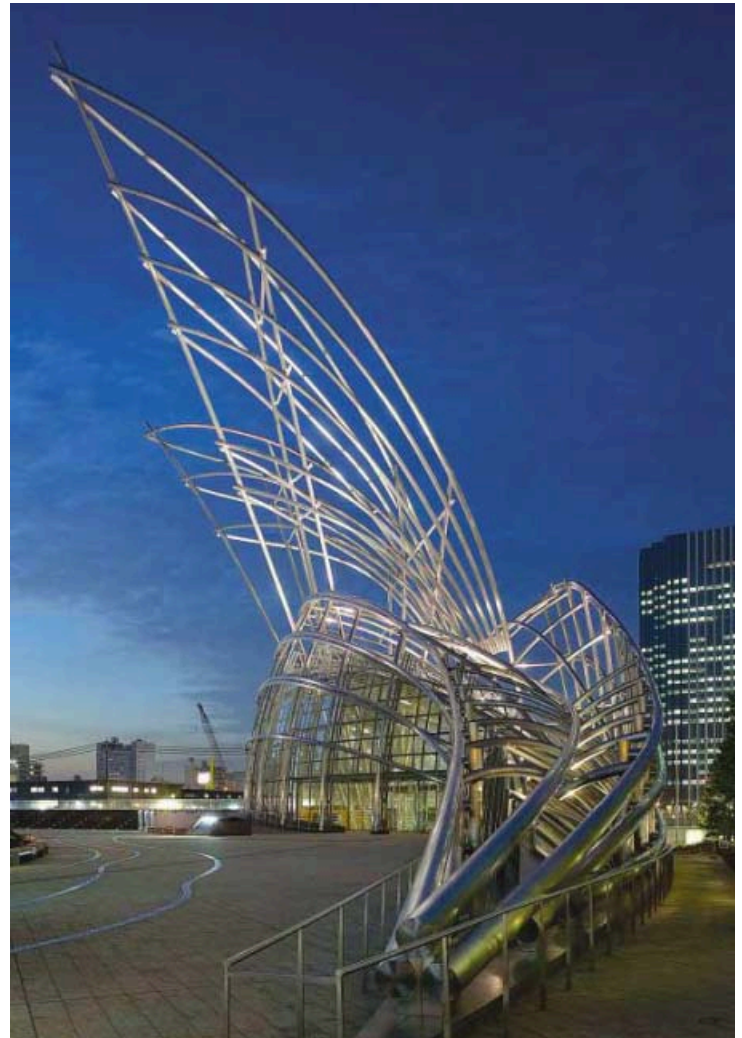
The design ultimately took the form of a reverse L-shape on three subterranean levels that descend 64 feet into mud and water. To give it street presence, Pelli created a glass enclosure over a ground-floor entrance vestibule, and surmounted it with two dramatically fanciful steel-tube architectural sculptures. The glazed entry could be likened to the tip of an iceberg, or the conning tower of a U-boat—indeed, the firm describes the project as “a watertight submarine for precious artifacts.” A graceful steel crown nicely amplifies the glass structure's crystalline panes. The glazed entry also allows light to enter the center of the windowless structure below.

The second challenge was a technical one. The museum sits in an area of saturated alluvial soil. Pelli describes the below-grade structure, which is 10 feet thick, as “a bathtub inside a bathtub inside a

bathtub.” But rather than holding water, the tubs keep it at bay, resisting what is effectively a lake of aqueous silt and mud. The outermost tub is composed of massive rough-cast solid concrete walls, which keep out water and also act as ballast to resist the uplift of hydrostatic pressure. Inside this tub sits a second layer of concrete with a rubberized membrane that serves to regulate temperature and humidity and acts as a secondary waterstop. The innermost tub, finally, is composed of the interior walls of the museum. Each bathtub layer is separated by an airspace.

The museum required an atypical construction method. Rather than following the usual practice of excavating and lining a huge pit and building from the foundation upward, the museum was constructed from the top down, one floor at a time. This reduced the amount of temporary waterproofing needed by avoiding the large void that typical bottom-up construction requires. Complicating matters, the 100-year flood line sits about 5 feet above street level just outside the museum, meaning it had to be designed to resist yet another form of water pressure. Accordingly, the lower portion of the glass enclosure was constructed with panes that are a beefy 2.5 inches thick.

Descending from the grade-level lobby bridge, patrons first arrive at a public space containing a ticketing and information area, a restaurant, gift shop, auditorium, and video exhibit. This floor also houses administrative offices. The next level down is devoted to temporary exhibitions, and the lowest floor houses the permanent exhibition galleries and curatorial spaces. A long escalator-and-stair run ties the four levels together.



An intricate steel sculpture spreads its wings above the entry of Osaka's National Museum of Contemporary Art (above). Most of the museum is underground, though the entry adds razzle-dazzle to a dense urban site, especially alongside a nondescript science museum (at right in photo below).



Tech Briefs

Flying on wings of steel

Aesthetically, the most striking feature of the project is the above-ground sculpture announcing the museum's presence and purpose. The long, horizontal element, densely woven and resembling a roller coaster, wraps around the lobby but also extends beyond it on each side to a length of 230 feet. The tall portion, lighter than the horizontal one, resembles a pair of wings and reaches 170 feet into the sky. These were designed neither on paper nor on a computer; instead, the form was worked out "intuitively, visually, and by a sense of feel," says Pelli's partner Fred Clarke, by building an immense physical model 8 feet long, 4 feet wide, and more than 6 feet high. The firm soldered together large brass tubes to create this "analog" representation of the sculpture. The model was then digitized through

photography and profiling with a laser reader.

Initially, Pelli wasn't sure whether the sculpture piece should be vertical or horizontal, so the design team developed both alternatives and presented them to the museum's then-director Shigenobu Kimura.



The glazed entry (above) boosts the museum's street presence, and also allows light to reach the subterranean floors (left).



Acoustic Door and Window Systems



Blast- and Pressure-Resistant Door and Window Systems



Security Products



Fiberglass Reinforced Plastic Composite Doors and Frames

For Specialty Doors, we've got your winning hand.



Phone: 1-800-979-7300
Fax: 724-830-2871
E-mail: overly@overly.com
Web: www.overly.com

Phone: 1-888-891-4416
Fax: 402-346-0561
E-mail: info@tigerdoor.com
Web: www.tigerdoor.com



A visionary client who encouraged inventiveness throughout the project, Kimura liked what he saw and asked Pelli to incorporate both versions.

Detailing and building these structures wasn't simple. The tall wings rise up through the museum's full height, penetrate the panes of

the glass enclosure, and then reach up high into the open air. Inherently flexible, they were expected to move several inches under wind and seismic forces. Accordingly, the design team fitted them with special rubber gaskets (to prevent hard contact) and heated collars (to pre-

vent humidity condensation) where they passed through the glass. The titanium-coated, stainless-steel tubes were shop-fabricated and assembled, then disassembled and shipped to the site, where they were finally reassembled and installed. Interestingly, the subcon-

tractor who built the sculpture was not a building-industry firm, but rather a pipeline constructor. Pelli says, "The execution of these sculptures required extremely sophisticated technology. The contractors put their souls into it, and did it very well." *John Pastier*

GSA asks for guidance on using digital building models for design and construction

Proponents of building information modeling (BIM) and software interoperability may soon get a boost from the world's largest building owner. The General Services Administration (GSA) recently solicited the AEC community to provide information about BIM, such as case studies and best practices, with an eye toward improving project delivery and possibly creating new standards for submitting design information to the agency.

Specifically, GSA asked for feedback on using Industry Foundation Classes (IFCs), the standards for electronic-data exchange created by the International Alliance for Interoperability (IAI). [Editor's note: RECORD publisher McGraw-Hill was a founding member of IAI and plays an active role in its leadership.] The IFCs are a set of definitions for building elements (e.g., walls, doors, and floors) and their properties and relationships (e.g., doors are built into walls), which were developed to ease the sharing of digital design information among different, proprietary software programs. The IAI, founded in 1995, has long maintained that a lack of data standards lowers the AEC industry's productivity because building infor-

mation can't be shared easily among multiple parties.

GSA's solicitation came on the heels of one of the first studies aimed at quantifying the extent of these productivity losses. Last fall, a report issued by the National Institute of Standards and Technology (NIST) estimated that poor interoperability cost the industry \$15.8 billion in 2002.

Though some cast doubt on NIST's estimates, and others question the specifics of the IFCs themselves, few doubt the need for better methods for sharing data. So far, the major CAD companies and several other software vendors have pledged, at least in principle, to make their products compatible with IFCs. Overall, though, the industry has been slow to embrace standards, and it seems more likely that owners like GSA would drive their adoption, as has been the case with other technology-based management solutions, such as Internet-based project Web sites.

Although the deadline for formal feedback about IFCs has passed, questions and requests for information about the GSA solicitation can be sent to ifc.bim@gsa.gov. *Deborah Snoonian, P.E.*



illbruck
Architectural Products

Contemporary flair. Sound economics.

Get a beautiful ceiling with exceptional acoustical control at an attractive price.

HARMONI™ Ceiling Tiles are made with illbruck's patented willtec® acoustical material. They're lightweight, easy to install, fire-retardant and mold-resistant. And HARMONI tiles absorb 90% of sounds directed toward them making them ideal for classrooms, offices, conference rooms, home theaters, corridors and other noisy interiors.

Choose the smooth VISTA pattern or softly sculpted TARTAN style with a white, almond, black or grey Hypalon® coating.

illbruck offers a wide range of attractive acoustical products including FABRITEC™ Wall Panels, SONEX® Panels and Baffles, CONTOUR® Ceiling Tiles, SQUARELINE® Metal Ceiling Tiles and more. Get the ceiling you dream of for less than you'd imagine.

1-800-662-0032

www.illbruck-archprod.com/ceiling
sales@illbruck-archprod.com

© 2005 illbruck, inc., illbruck and the illbruck logo are registered trademarks of illbruck, inc. All rights reserved.

SLOAN VALVE COMPANY
PRESENTS



Low-consumption solar-powered faucet with an integrated power plant storage cell transforms light from any source into electrical energy.

Factors For Achieving Water Conservation Excellence:

Why—and What—Today's Architect Should Know About Plumbing and Its Relationship to Sustainable Design

Plumbing is one of those areas that architects rarely touched upon except in terms of design influence. Either relegated to the interior designer or engineer for the system specifications, plumbing as a "category" rarely crossed the architect's thought process as a major factor of design importance—until now.

What has changed dramatically is the growing awareness of water itself as a most precious resource, and the one resource most taken for granted. As we collectively grow in our awareness of water's scarcity, the architect finds issues of water as not only part of his decision-making process; his role as "master builder" thrusts him into the center of the efforts to save this resource. Thus, more than in the past, architects must not only familiarize themselves with an increasing variety of issues outside the scope of a building's structure; they must further tackle water's issues and water's relationship to sustainable design.

This article deals with the water resource, water conservation, and the factors that influence an architect's design strategies such as hands-free hygienic plumbing. It will familiarize the architect with the growing possibilities which exist today to conserve this resource, how to gain LEED® points, and how to use LEED calculations to achieve Water Use Reduction requirements. In addition, it will help the architect gain an understanding of the benefits extended to the sustainable design when water conservation is practiced.

Why the Focus on Water?

While traditionally much attention has been focused on controlling or conserving energy costs, controlling water costs has now become an

objective due to growing population and limited fresh water supplies to meet the demand. For example, in the Southwest and the Pacific Northwest, freshwater sources are rapidly diminishing, spawning innovative methods of water conservation and improved management of the natural water-cycle. According to the U.S. Department of Energy, rising water and sewage costs average approximately \$4.00 per 1,000 gallons across the United States—a pace expected to be two percent greater than inflation.

From the architect's point of view, these trends impact the entire "green design phenomenon," and ultimately, the design of structures themselves. When the point of view of

CONTINUING EDUCATION

Use the learning objectives below to focus your study as you read **Factors For Achieving Water Conservation Excellence: Why—and What—Today's Architect Should Know About Plumbing And Its Relationship to Sustainable Design**. To earn one AIA/CES Learning Unit, including one hour of health safety welfare credit, answer the questions on page 291, then follow the reporting instructions on page 380 or go to the Continuing Education section on archrecord.construction.com and follow the reporting instructions.

LEARNING OBJECTIVES

After reading this article, you should be able to:

- Understand the architect's role in water conservation
- Recognize what is required to earn points for LEED-NC Water Efficiency Credit 3
- Understand how to calculate Baseline and Design Case indoor water consumption

preserving our most precious resource is folded into other design considerations, it becomes imperative to know where water is being consumed in different types of buildings. In other words, to create an effective plan that addresses water conservation, the architect's role spills over into water management issues as well as structural issues.

The North Carolina Department of Environment and Natural Resources' Division of Pollution Prevention and Environmental Assistance offers this information about domestic water use: consumption by lavatories, water closets, urinals and showers accounts for the largest amount of consumption for office buildings, schools/universities, hotels/motels and healthcare facilities. Each of these types of buildings consumes more than 40 percent of their total water balance in the restroom. Controlling this consumption should be a high priority of today's architect. As costs for potable water continue to escalate over the next few years—influencing the bottom-line in ways it never has in the past—implementing water-efficient designs that reduce that need will save money and resources in the years to come, and result in a more sustainable structure.



Available in hardwire or battery-operated models, low-consumption, 0.5 gpm self-adaptive electronic faucets are designed to promote hygiene and handle heavy traffic.

Schools

For example, more than 50 million children and six million adults enter public schools each day during the school year. The actual water needed to meet that daily demand is staggering; what makes it more compelling is that the average school building is over 40 years old. In 2003, over \$48 billion was spent on construction in this marketplace, and as schools today face a shortage of funding and a lack of awareness of what sustainable designs can do for facilities, the role of the architect is further enhanced by having a unique education-oriented environment within which to practice conservation. Movements toward sustainable schools are well developed in some areas, but many areas still practice old techniques, thus missing the opportunity to impact a large consumer of the domestic water supply.

Hospital and Healthcare Facilities

Consider the unique requirements of many of our hospitals and healthcare facilities. These buildings are similar to "mission critical" buildings in that they operate 365 days a year, and incorporate equipment that consumes vast quantities of energy and water. In thinking about sustainable design, architects should consider the ASHE (the American Society of Healthcare Engineers) guidance statement from

2002 that focused on the holistic nature of sustainable design: "Local air and water quality is also significantly affected by building design choices. Off-gassing building materials and finishes, construction equipment and HVAC systems directly emit VOCs, particulates and other materials that can result in the formation of ground level ozone (smog), and cause allergic attacks, respiratory problems and other illnesses. Land use and transportation planning, landscape and water management on the grounds and water conservation efforts within the building will influence the amount of toxic emissions released to the water and air throughout the life of the building."

Consequently, it isn't just a "water" decision, but a *building decision* the architect faces when confronting sustainable design with water conservation as a goal. Water-efficient design strategies actually balance water quality and quantity demands within a building. Architects must, therefore, take a "systematic look to identify potential water sources, how water is used in the building and how it flows around the building site to reduce water usage and wastewater discharges"—good advice in today's water-conscious environment.

Enter LEED®

One of the major forces raising awareness of sustainability and environmentally responsible design is the LEED® Green Building Rating System. LEED has become the most influential driver for green buildings, and includes a section that rewards water conservation efforts. The overall LEED system helps project teams determine environmental goals, identify green design strategies, measure and monitor progress, and document successes.

A product of the United States Green Building Council, LEED for New Construction (LEED-NC) provides a menu of green building measures in six major categories:

- Sustainable Sites, which includes credits for controlling erosion as well as considerations to reduce overall site disturbance.
- Energy and Atmosphere, which includes credits for optimizing energy performance and incorporates credits for use of renewable technologies.
- Materials and Resources, which offers credits for a range of sustainable designing strategies including the use of recycled building materials.
- Indoor Environmental Quality, which includes ways to establish minimum indoor air quality performance and occupant comfort and health.
- Water Efficiency, which includes ways to maximize water efficiency both in outside irrigation as well as indoor water usage.
- Innovation and Design Process, which addresses design measures not covered in the other five categories.

For the Water Efficiency category, the U.S. Green Building Council offers up to five LEED-NC credits: two for reducing potable water use for irrigation; one for reducing potable water use for sewage conveyance; and two for reducing potable water use inside a building. The last two credits, which comprise LEED-NC Water Efficiency Credit 3, are dedicated to reducing potable water use within the building.

Using LEED for Water Conservation

The architect must consider methods to reduce potable water use that go beyond the Energy Policy Act of 1992 (EPAct). Such methods include reusing roof runoff for non-potable applications, installing sensors and flow restrictors on water fixtures, installing dry fixtures, and other innovative methods. Such methods have a profound effect on the environment, and include:



Easy to install and ADA-compliant waterfree urinals feature a biodegradable sealant liquid for an odor-free and vandal-resistant environment.

- **Environment.** Water reduction benefits the total amount withdrawn from rivers, streams and other water bodies. In addition, such reductions reduce energy use and chemical inputs at municipal water treatment facilities. Conserving water can also minimize the frequency of outflow events (in a combined sewage system, raw sewage is discharged when the system breaches capacity).
- **Economic.** Water reductions minimize building operating costs, and lead to a more stable tax and water rate, as well as delaying water treatment facility expansions.
- **Community.** Water reductions save water for future generations. In addition, water reduction allows the community to grow without overburdening its water system.

The architect's design strategy should include all water consuming fixtures, equipment, and seasonal conditions related to the structure, as well as specifying fixtures that exceed the Energy Policy Act of 1992. These include waterfree urinals, low-consumption toilets such as pressure-assist 0.8 gallons per flush (gpf) models, low-flow faucets and showers, and electronic Flushometers and faucets.

For example, waterfree urinals are now readily available in the marketplace and use no water for flushing. In certain applications, these fixtures represent ideal solutions to achieve water conservation goals. In other applications, toilets that use less than 1.6 gpf offer the architect extraordinary opportunities to achieve sustainable objectives (e.g., 0.8 gpf pressure assist).

Making Your Calculations

The intent of the Water Use Reduction section of LEED-NC is to maximize water efficiency within buildings to reduce the burden on municipal water supply and wastewater systems. Architects achieve this by employing strategies that in aggregate use 20% or 30% less water than the water use baseline calculated for the building (not

including irrigation) after meeting the Energy Policy Act of 1992 fixture performance requirements.

To meet Water Efficiency Credit 3.1, the architect must submit the following:

- The LEED Letter Template, signed by the MEP engineer or responsible party (including the architect) declaring the project uses 20% less water than the baseline fixture performance requirements of the Energy Act of 1992; and,
- The spreadsheet calculations demonstrating that water-consuming fixtures specified for the occupancy and use of the building reduces occupancy-based potable water consumption by 20% compared to the baseline conditions.

To meet Credit 3.2, requirements are the same as above, except instead of 20%, it is a 30% reduction. These could be considered "affordable credits," in that the cost of water-efficient equipment is on par with standard fixture expenses.

One can immediately see the importance of *establishing a baseline calculation* in order to fulfill these requirements. The baseline calculation will be the same as the water conservation *design calculations* (those used to show LEED qualification), except that for the baseline, ALL fixtures are assumed to be performing according to Chart 1 (1992 Energy Act).



Low-consumption 0.8 gpf pressure-assist toilets maximize water delivery force to provide excellent performance often out-performing gravity 1.6 gpf units.

**Chart 1: Fixture Flow Requirement
Ratings of Energy Policy Act of 1992**

Fixture	Flow Req.
Water Closets	1.6 gpf
Urinals	1.0 gpf
Showerheads	2.5 gpm
Faucets	2.5 gpm
Replacement Aerators	2.5 gpm
Metering Faucets	0.25 gal/CY

NOTE: Flowing water pressure of 80 psi

To better understand the calculation methodology, let's assume a one-story building, with two restrooms. The men's room has two urinals, and two closets. The women's restroom has four closets. Each restroom has two sinks with a manual faucet on each sink. There are 100 people who occupy the building during office hours: 50 men, and 50 women.



Stain-, chemical- and heat-resistant solid-surface lavatory systems with low-consumption sensor-operated faucets are easy to maintain and provide hands-free, hygienic operation.

Creating the Baseline

Create a spreadsheet listing each water-using fixture, and the frequency of use data. Frequency of use data includes number of female and male daily uses, duration of use, and the water volume use. There is no set criteria for determining daily use or duration of use, so architects can estimate these items based on the project's program requirements. These values are used to calculate the TOTAL POTABLE WATER used for each fixture type and gender. Use EPA fixture flow rates for the baseline case. Do not change the number of building occupants, work days or frequency data from baseline to design case. In addition, graywater or rainwater harvest volumes must not be included in baseline calculations.

CHART 2: BASELINE CALCULATIONS

Daily Uses	Fixture Type	Duration (flushes); faucets shown in minutes	Flowrate (gpf); faucets shown in gpm	Water Use (gallons)
50	Men's Water Closets	1	1.6	80.00
150	Women's Water Closets	1	1.6	240.00
100	Men's Urinals	1	1.0	100.00
300	Conventional Sinks	0.25	2.5	187.50
	Daily Total			607.50
	Annual Work Days			260
	Total Annual Volume (gallons)			157,950

Assumptions: Males use urinals twice per day; closets once per day; females use closets three times per day. Both males and females use faucets three times per day.

The baseline calculations offered in this example show the architect an easy way to accomplish the LEED-NC objective of preparing a baseline, and ultimately, the objectives of the LEED-NC credit for Water Use Reduction. For example, LEED-NC v2.1, which is the basis of this approach, requires submittal of the LEED letter templates, which calculate, based on the occupancy of males, females and fixture type, the TOTAL ANNUAL POTABLE WATER VOLUME for the building. In this calculation, the baseline yields a total usage of 157,950 gallons (Chart 2).

Note that we have estimated the daily use and duration of use for each fixture in this building. LEED-NC specifically states that these criteria are not set; therefore, the architect is required to set them, and usage patterns can be determined in many ways (e.g., working with the owner, talking with occupants, etc.).

Calculating the Design Case

In calculating the Design Case (the specific changes being proposed to this building from a water conservation point of view), we must *not* change the number of building occupants, the number of work days, or the frequency data.

For our Design Case, let's assume the following:

- 1) Waterfree urinals will be used.
- 2) 0.8 gpf pressure-assist water closets will be used.
- 3) Electronic faucets with low-flow aerators (0.5 gpm) will be used. Plus, the electronics have been factored as reducing sink duration by 20% (to 12 seconds). However, electronic controls on water closets do not receive a reduction in duration, as they are fixed-volume devices (e.g., 0.8 gpf). NOTE: The 20% reduction can be found on page 105 of Reference Guide LEED-NC v2.1. Furthermore, university studies have been conducted into water savings of electronic versus manual faucets.

The calculations shown in Chart 3 use the above fixture types. You can see that a 69% reduction in annual water use for the building is achieved—far greater than the 30% reduction required for this LEED-NC credit. In fact, Water Efficiency Credits 3.1 and 3.2 are cumulatively achieved.

CHART 3: DESIGN CASE CALCULATIONS

Daily Uses	Fixture Type	Duration (flushes); faucets shown in minutes	Flowrate (gpf); faucets shown in gpm	Water Use (gallons)
50	Men's Water Closets (ultra low flow)	1	0.8	40.00
150	Women's Water Closets (ultra low flow)	1	0.8	120.00
100	Men's Urinals (water free)	1	-	-
300	Conventional Sinks	0.2	0.5	30.00
	Daily Total			190.00
	Annual Work Days			260
	Total Annual Volume (gallons)			49,400

Assumptions: Males use urinals twice per day; closets once per day; females use closets three times per day. Both males and females use faucets three times per day.

The architect is in a position to do "what if" scenarios using these simple calculations, with usage factors taken into consideration. It is always helpful, as well, to consult with manufacturers who have such usage data, and who can provide LEED assistance.

Real Results from LEED

The fact is, water efficiency measures in commercial buildings can easily reduce water usage by 30% or more, according to the USGBC. In a typical 100,000-square-foot office building, low-flow fixtures coupled with sensors and automatic controls can save a minimum of one million gallons of water per year, based on 650 building occupants each using an average of 20 gallons per day. As demonstrated in the example above, the standard toilet fixture uses 1.6 gpf and the standard urinal consumes 1.0 gpf. Design strategies using equipment such as 0.5-gpf urinals, as well as waterfree urinals or dual-flush toilets, can significantly impact usage and maximize water savings. All of these should be included in the architect's conservation strategy.



Dual-Flush toilets allow the user to select a full flush (1.6 gallons per flush) or reduced flush (average 0.8 - 1.1 gallons per flush).

Taking conservation further, showers installed for those who commute by bicycle or for others who work out during lunch, can be fitted with low-flow 2.0-gallons-per-minute (gpm) showerheads and sensor-operated lavatory faucets with 0.5-gpm aerators, providing maximum water savings. Or, for example, in universities and schools, where efficient transportation is combined with sports activities, such shower strategies can deliver significant dividends in water savings.

To attain the highest possible LEED-NC rating, all water-consuming fixtures should be selected for their capacity to conserve water and provide durability for long-lasting service. The more a product can maintain the habits of a population while conserving energy, the more a product will be accepted by the population itself. In general, products that conserve without sacrificing performance will be in greater demand than those that give up performance in favor of efficiency. For example, low-flow pressure toilets and 0.5-gpf urinals reduce water consumption without sacrificing performance.

Measures taken to achieve Water Efficiency objectives can overlap into other LEED-NC categories. Knowing the products and understanding the intent of the LEED-NC criteria can maximize point-earning potential. For example, low-flow 0.5 gpf urinals contribute to achieving water efficiency goals. Additionally, the urinal Flushometer may be manufactured from recycled content, and the fixture may be regionally manufactured.



Low-consumption solid brass showerheads with self-cleaning, spring-loaded spray disks produce a cone-within-a-cone spray pattern.

Retrofit Applications

As more building owners are now choosing to reinvest in existing structures, plumbing retrofits are becoming more common and attractive to allow for accessibility, provide increased hygiene, and decrease water consumption. This reinvestment trend has led to the development of LEED standards for existing buildings to document the higher levels of efficiency and address the operation and upgrades of existing buildings that do not fall under the category of major renovation.

LEED for Existing Buildings (LEED-EB) provides architects the opportunity to market their services to owners and operators of all existing buildings by explaining the financial and environmental benefits of sustainable facilities. LEED-EB covers a significant market with more than 4.6 million buildings in the United States already standing and billions of square feet of existing space that would benefit from the green design approach.

For these existing buildings, one of the first elements to examine to earn LEED points is the restroom, specifically, flushing technologies. The advantage of retrofitting old Flushometers is that products have vastly improved in terms of water efficiency over the past few decades. There have been advancements in electronic products, whereby the solenoid, which initiates the flushing sequence, is isolated from the water source for more reliable operation. There are also generational improvements to sensor technology, which can now identify users more consistently, ensuring a single flush per use instead of multiple flush, which wastes water. Sensor products meet the intent of sustainable design, in that they provide a hygienic hands-free bathroom environment, lessening cross-contamination and spread of germs in the workspace.

While older Flushometers can use more than three gallons a flush, waterfree urinals, which connect directly to existing drain lines for simple retrofit applications, consume no water to maximize conservation efforts without sacrificing hygiene. Waterfree urinals use a liquid-seal to form a barrier between the open air and urine, which prevents any odors from escaping from the drain line. Independent research studies have shown waterfree urinals have less bacteria per square inch than standard water-fed urinals, providing a hygienic and odor-free environment.

Other retrofit options include upgrades of manual units into touchless models with kits that flush electronically. Both side-mounted and integral top-load modules are available and provide the same advantages of new, touchless products that are "right out of the box."

The Hygiene Benefit

When evaluating water conservation strategies, the architect should consider factors such as the type of facility and the number of people who will have access to specific restrooms. One important benefit from sensor technology is hygiene, which directly affects the building in terms of tenant satisfaction and occupancy rates. Often, hygiene is considered separately instead of a by-product of product specification. In actuality, they are related.



Electronic soap dispenser and faucet units promote water conservation and hygiene.

Touchless, sensor-operated fixtures, for example, are the best solution to providing a hygienic atmosphere in healthcare and educational facilities because plumbing fixtures operate in damp environments, which are prime breeding grounds for bacteria. As pointed out, LEED allows for a 20% reduction in lavatory and sink use durations when sensor controls are installed. It also helps meet the intent of the Indoor Environmental Quality (IEQ) section of LEED-NC, which seeks to protect building occupants from harmful environmental conditions, and improve comfort and well being. Certainly, preventing the spread of germs by using sensor controls helps to promote hygiene and all of hygiene's subsequent benefits (more productivity, fewer sick days, etc.).

The Centers for Disease Control and Prevention (CDC) reports that hand washing is the single most important means of preventing the spread of germs. It is the first line of defense for infectious diseases, including respiratory infections and gastrointestinal

disorders, among others. In fact, after using a public restroom, a single hand can have a bacteria population of 200 million, according to the CDC. Nevertheless, it takes just seconds to re-contaminate after washing by touching dirty faucets, soap dispensers and then finally, towel dispensers—something the general public is increasingly aware of now.

The use of touchless faucets is so important (and logical) to ensuring a hygienic atmosphere that it is the single design specification for scrub sinks



Stainless steel wash stations with an adjustable above- or below-deck thermostatic mix valve allow for hygienic, low-consumption operation with minimal maintenance.

for operating rooms, according to the Association of Perioperative Registered Nurses (AORN), the leader and expert on patient safety in surgical settings. "In general, there is only one specific feature we recommend for surgical scrub sinks: that it allows hands-free operation," says Ramona Conner, RN, MSN, CNOR.

Sensor-operated faucets also increase hygiene in public and semi-private restrooms, such as in hospital rooms. That's because the dirtiest area in the bathroom, as far as germs are concerned, is the sink itself. A research study on public restrooms titled "*Enteric Bacterial Contamination of Public Restrooms*" showed that total coliforms (aerobic bacteria found in the colon or feces) were present on 17.3% of the 248 surface samples taken from hospitals. Sink drain surfaces resulted in positive samples of coliforms 80% of the time, followed by the rim of the sink 20% and then the area under the soap dispenser 10%. The reason for this is that when a person washes, bacteria are shed from the hands and collect in the sink area.

There is also a conservation advantage for sensor-operated plumbing fixtures that save a significant amount of water. Based on the assumption that both manual and sensor-operated faucets flow 2.2 gpm, and users follow the minimum Food and Drug Administration's Food Code hand washing procedure that recommends pre-rinsing for 4 seconds, scrubbing for 20 and then finishing with a final rinse of 4 seconds, sensor-operated faucets would save 1.057 gallons of water per hand washing. This savings is realized because sensor-operated faucets are "turned off" unless a user's hands are in the "active area," while manual faucets continue to flow while users lather their hands. These savings can add up even further with faucets that use 0.5 gpm aerators.

The final step to hygienic hand washing is drying, but again, touching contaminated surfaces to retrieve towels can negate the effects. That's why touchless, forced-air dryers are ideal for maintaining highest levels of hand hygiene. In fact, research by the Mayo Clinic (*Effects of 4 Hand-Drying Methods for Removing Bacteria From Washed Hands: A Randomized Trial, Mayo Clinic Proceedings*. 2000; 75:705-708) states that warm air drying ranks the highest (best) when compared with other methods of drying when bacterial samples were taken after drying hands. The clinical trial declared "the forced warm air method as the best method for removing bacteria from the washed hand."

In fact, additional water waste can be accounted for in applications with manual faucets because water may continue to run when the user reaches for a towel to dry their hands or use the towel as a buffer between hand and fixture to turn off the faucet and avoid re-contamination. Also, because users are now accustomed to sensor-operated faucets, manual faucets are often left running out of habit.



Advanced electronic hand dryers dry hands in 10 to 15 seconds and use 80% less energy than traditional hand dryers while providing a 90% savings vs. paper towel costs.

Conclusions

Architects have a variety of tools at their disposal to achieve water conservation objectives. In a recent survey of building owners and managers, participants were asked which areas of the building they thought had the greatest potential to negatively affect a visitor's impression of their facility if not properly maintained or updated. The second most cited area was the restroom. In fact, restrooms were judged the most frequently visited common area of the building by employees and/or visitors alike.

It makes good design sense to take advantage of new strategies that promote water conservation because they benefit both the bottom line and the environment. In fact, owners of LEED-certified buildings receive financial incentives in terms of return on investment. In October 2003, California's Sustainable Building Task Force released a 134-page report titled, "The Costs and Financial Benefits of Green Buildings," which confirms the economic viability of "green buildings" as an investment. The report states, that on average, a normal increase in up-front costs of two percent to achieve "green design" will result in life cycle savings of 20 percent of the total investment—10 times the initial investment.

Today's architect has the opportunity to take water conservation to the next level—and help their owner-customers achieve realistic results. ■

The Promise of Dual Flush

A recent development that holds promise of water conservation is Dual-Flush technology. Dual-Flush toilets allow the user to select a full flush (1.6 gallons per flush) or reduced flush (average 0.8 - 1.1 gallons per flush). Australia is the second driest continent on Earth, and a country where the need for water conservation is understood throughout the population. It has been using the product for years, having mandated Dual-Flush technology in all residential applications, which has greatly impacted the demand on local water supplies.

The latest information on its performance and acceptance is a pilot program conducted in Canada using Dual-Flush toilet technology in residential, commercial, and institutional settings. The Canadian study, conducted by Canada Mortgage and Housing Corporation in partnership with 12 municipalities, monitored water consumption, toilet performance, and customer satisfaction with the Dual-Flush system. The Dual-Flush performed well based on water consumption rates, saving an average of approximately 26 percent more water than standard 1.6 gpf fixtures.

Until now, Dual-Flush was only available in residential "tank" style fixtures. Many designers have been so eager, they've actually used these fixtures in a commercial application. Recently, a new Dual-Flush Flushometer was introduced which will bring the advantages of Dual-Flush to a wider range of commercial projects. Related to LEED, the product will count towards water use reduction credits and help a design team get the points for water efficiency. The new Dual-Flush Flushometer will effectively reduce water use on the toilet by an average of 26% according to the Canadian study. A well performing 1.6 gpf fixture is recommended for use with the new Dual-Flush Flushometer—the product is also available as an easy retrofit to existing fixtures making the water reductions available to older projects.

List Of Works Consulted

"Guideline for Hand Hygiene in Health-Care Settings: Recommendations of the Healthcare Infection Control Practices Advisory Committee and the HICPAC/SHEA/APIC/IDSA Hand Hygiene Task Force," Centers for Disease Control and Prevention, MMWR 2002; 51 (No. RR-16).

National Center for Health Statistics. Vital statistics of the United States. 119th ed. Washington: U.S. Census Bureau. Statistical abstract of the United States; 1999

"Microbiological Hazards of Household Toilets: Droplet Production and Fate of Residual Organisms," American Society for Microbiology, Applied Microbiology, Aug. 1975, Vol. 30, No. 2, pp. 229-237.

"Comparative surface-to-hand and fingertip-to-mouth transfer efficiency of gram-positive bacteria, gram-negative bacteria and phage," Journal of Applied Microbiology, Oct. 2002, Vol. 93, No. 4, pp. 585-592.

"Effects of 4 Hand-Drying Methods for Removing Bacteria From Washed Hands: A Randomized Trial," Mayo Clinic Proceedings. 2000; 75:705-708.

"Estimated Use of Water in the United States in 2000," U.S. Geological Survey Circular 1268, U.S. Department of the Interior, U.S. Geological Survey, Susan S. Hutson, Nancy L. Barber, Joan F. Kenny, Kristin S. Linsey, Deborah S. Lumia, and Molly A. Maupin.

"Water Efficiency: Sound Principles of Water Management," North Carolina Department of Environment and Natural Resources' Division of Pollution Prevention and Environmental Assistance.

"Urban Nonresidential Water Use and Conservation. In: Water-Use Data for Water Resources Management," pp. 371-380, (Eds) M. Waterstone and R. J. Burt. Proceedings of the 1988 Symposium of the American Water Resources Association, Tucson, AZ. August 1988.

"The Costs and Financial Benefits of Green Buildings," California Integrated Waste Management Board, California's Sustainable Building Task Force.

"Energy Price Indices and Discount Factors for Life-Cycle Cost Analysis," Annual Supplement to Laura I. Schultz NIST Handbook 135 and NBS Special Publication 709, Amy S. Rushing, Sieglinde K. Fuller, April 2004. American Society of Healthcare Engineers, Green Healthcare Construction Guidance Statement, January 2002.

"Construction Expenditures Branch of the Manufacturing and Construction Division," U.S. Census Bureau

American School and University Magazine

"Estimates of School Statistics 2004," National Education Association, May, 2004

**AIA/ARCHITECTURAL RECORD
CONTINUING EDUCATION Series**

LEARNING OBJECTIVES

- Understand the architect's role in water conservation
- Recognize what is required to earn points for LEED-NC Water Efficiency Credit 3
- Understand how to calculate Baseline and Design Case indoor water consumption

INSTRUCTIONS

Refer to the learning objectives above. Complete the questions below. Go to the self-report form on page 380. Follow the reporting instructions, answer the test questions and submit the form. Or use the Continuing Education self-report form on *Record's* website—archrecord.construction.com—to receive one AIA/CES Learning Unit including one hour of health safety welfare credit.

QUESTIONS

1. What section of LEED-NC is designed to maximize water conservation within a building?
 - a. Sustainable Sites
 - b. Material Resources
 - c. Water Efficiency
 - d. Energy and Atmosphere
2. What policy is used to determine a building's baseline potable water volume usage?
 - a. ASHRAE/IESNA 90.1-1999
 - b. EPA's Guidance Specifying Management Measures for Sources of Non-Point Pollution in Coastal Waters (EPA 840-B-92-002 1 93)
 - c. EPA Act 1992
 - d. ASHRAE 62-1999
3. If you reduce the indoor water use by 30%, how many LEED points would you receive?
 - a. 1
 - b. 2
 - c. 3
 - d. 4
4. What is one of the documents that must be submitted to achieve LEED-NC Water Efficiency Credit 3.1?
 - a. LEED letter template declaring 20% signed by MEP engineers or responsible party
 - b. LEED letter template declaring 30% signed by MEP engineers or responsible party
 - c. Installation instructions signed by MEP engineers or responsible party
 - d. Ownership Verification signed by MEP engineers or responsible party
5. What is the fixture flow requirement of a urinal to meet baseline performance?
 - a. 3.5 gpf
 - b. 1.6 gpf
 - c. 1.0 gpf
 - d. 0.5 gpf
6. What must be included in your baseline potable water calculation?
 - a. graywater volumes
 - b. recycled water volumes
 - c. harvested rainwater volumes
 - d. each fixture using water volumes
7. When making Design Case calculations, which of the following can be changed?
 - a. number of building occupants
 - b. the number of workdays
 - c. the type of fixture
 - d. the frequency data
8. In the baseline calculations stated in the article, if the number of male occupants increased by 10%, which fixture's water use totals would be affected?
 - a. Men's water closets
 - b. Men's conventional sinks
 - c. Men's urinals
 - d. All of the above
9. In determining the Frequency of use data, which of the following should you exclude from consideration?
 - a. number of female and male daily uses
 - b. duration of use
 - c. the water volume use
 - d. structure of the facility
10. What is the total annual potable water volume (gallons) of a one-story building in the example provided in the article for the Design Case, if the number of men increased to 75, and the number of women decreased to 25?
 - a. 86,060 gallons
 - b. 39,000 gallons
 - c. 78,260 gallons
 - d. 37,840 gallons

About Sloan

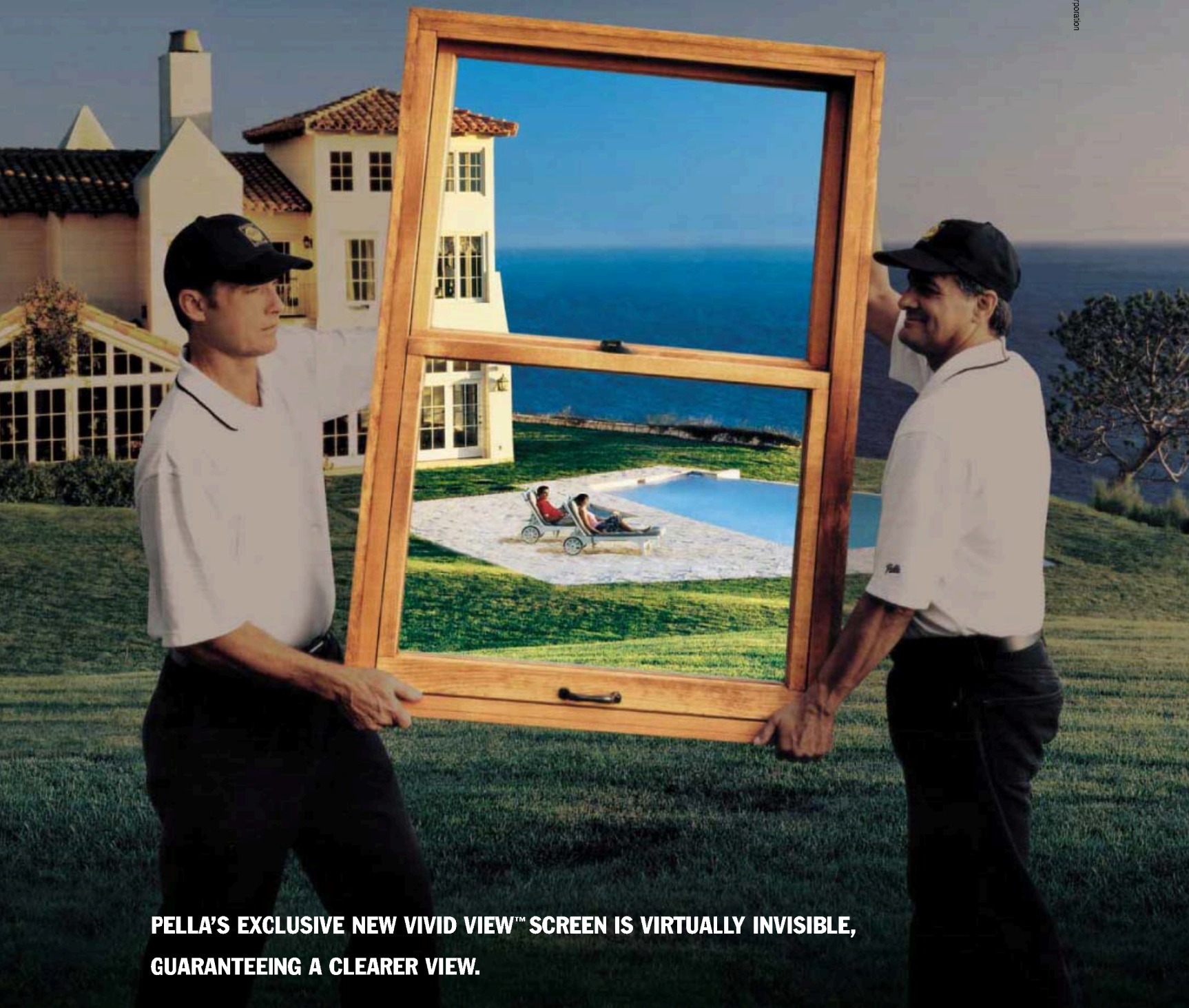
Sloan Valve Company is a single source of water-conserving plumbing systems for construction professionals across the globe. Along with its flagship Flushometer products, Sloan manufactures sensor-operated and manually activated faucets, sink lavatory systems, electronic soap dispensers, touchless hand dryers, waterfree urinal fixtures and pressure-assist flushing systems.

Recognizing a void for quality plumbing products outside the restroom, Sloan also established itself as a leading manufacturer of surgical scrub stations, showerheads and computerized plumbing control systems that regulate water use in defined locations and at specified times.

With a comprehensive line of products, Sloan remains the leading manufacturer of "green" plumbing solutions to the world market. For more information, contact Jim Allen at: Sloan Valve Company, 10500 Seymour Avenue, Franklin Park, IL 60131, www.sloanvalve.com, 800-9-VALVE-9, 800-982-5839, jallen@sloanvalve.com.

SLOAN 800-9-valve-9
www.sloanvalve.com

CIRCLE 366 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/



**PELLA'S EXCLUSIVE NEW VIVID VIEW™ SCREEN IS VIRTUALLY INVISIBLE,
GUARANTEEING A CLEARER VIEW.**

- PELLA'S NEW VIVID VIEW SCREEN* ALLOWS UP TO 50% MORE NATURAL LIGHT, AND UP TO THREE TIMES THE AIRFLOW.** MAYBE THAT'S WHY CUSTOMERS PREFER THEM 10 TO 1 OVER STANDARD FIBERGLASS SCREENS.***
- WHAT'S MORE, SINCE PELLA'S NEW VIVID VIEW SCREENS ARE ALL BUT INVISIBLE FROM THE STREET, THEY PROVIDE CURB APPEAL TO ANY PROJECT.
- TO REQUEST AN APPOINTMENT FOR A PRODUCT PRESENTATION, VISIT US AT PELLA.COM OR CALL 1 800 84 PELLA.

*Made with **GORE** TRANSPARENT SCREEN FABRIC. **Compared to standard fiberglass screens.

***Best appearance data from research conducted by Vernon Research Group (2003).



VIEWED TO BE THE BEST.®

CIRCLE 129 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

**PELLA WINDOWS
PRESENTS**

Greater Vision: Alternate Window Materials in Commercial Buildings

Windows are more than a view between worlds. They offer protection and comfort, and with the right combination of materials windows can increase energy efficiency, enhance daylighting, improve occupant comfort, and provide low maintenance for the building owner. The right window selection also can offer a balance between design, performance and budget when first and long-term costs are considered.

This continuing education program examines factors that influence window selection. It focuses on six key criteria: aesthetics, price, energy efficiency, durability, maintenance and environmental impact. Through comparisons of available materials and selected case studies this unit is intended to help architects and specifiers improve their ability to advise clients on the best window solution for their projects. It will show the options available for window styles and materials for commercial and institutional buildings.

Glass Options

Window assemblies consist of framing, glazing systems, hardware, finishes, sealants, and weather stripping. The first consideration is glass and glazing options. This is a key in calculating long-term cost because of its affect on energy efficiency and building operating expense.

Design requirements, the size of the window openings, thermal performance, cost, sound transmission, maintenance, durability, shading options, weather conditions and local requirements all have a bearing on selection of the glazing system.

In commercial structures, the two most commonly chosen systems are sealed insulating glass and dual glazed systems.

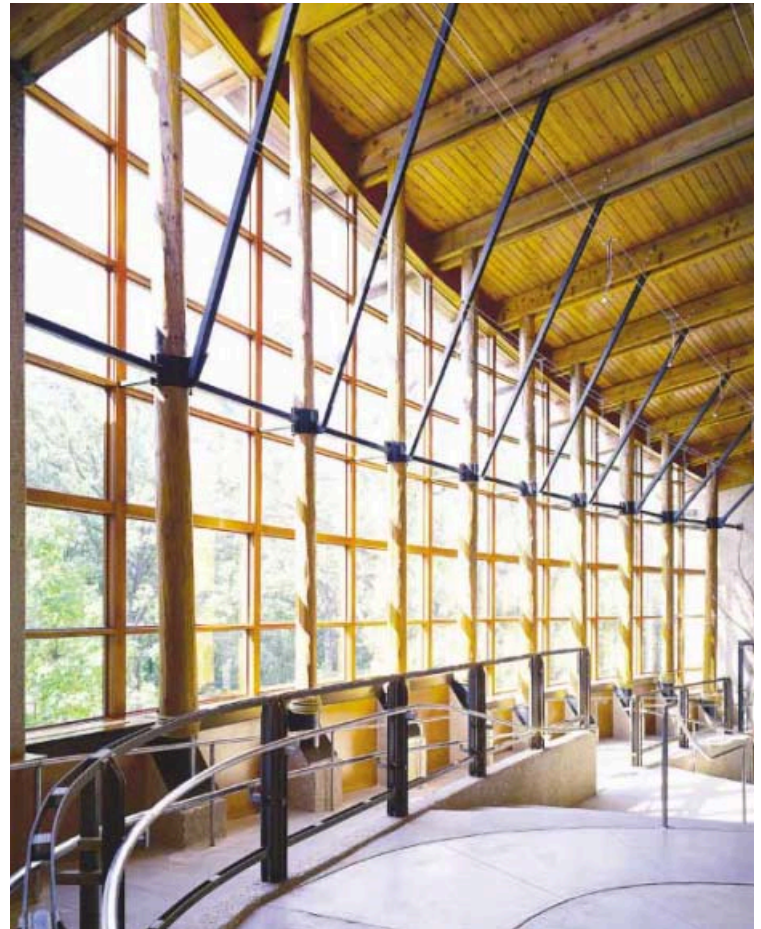
CONTINUING EDUCATION

The following learning objectives will help you focus your study as you read **Greater Vision: Alternate Window Materials in Commercial Buildings**. To earn one AIA/CES Learning Unit, including one hour of health safety welfare credit, answer the questions on page 297, then follow the reporting instructions on page 381 or go to the Continuing Education section on archrecord.construction.com and follow the reporting instructions.

LEARNING OBJECTIVES

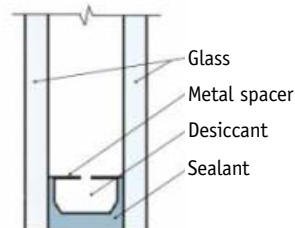
After reading this article, you should be able to:

- Understand window selection criteria and its impact on your projects and clients;
- Identify primary advantages and disadvantages of different window framing materials in commercial buildings;
- List and compare the advantages and disadvantages of sealed insulating glass and dual glazed systems; and
- Establish a method to determine the most appropriate window system for future projects.

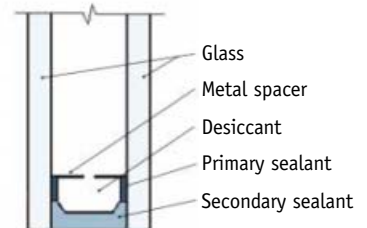


Wood-framed glazing complements the beautiful view of the woodlands at Lakeside Nature Center, Kansas City, MO, by International Architects Atelier.

Sealed insulating glass consists of two glass panes separated by a perimeter spacer typically made of metal. The sealed space between the panes may be filled with an inert gas like argon to improve the U-value of the insulating glass unit (IGU). In a single-seal system the primary sealant is applied behind the spacer. In a double-seal system, the primary sealant seals the spacer to the glass on both sides, and the secondary sealant, which is applied behind the spacer, provides the structural characteristics needed to hold the unit together. In both cases the sealant minimizes the potential for moisture intrusion and gas loss. However, when the seal in insulating glass fails, moisture appears on the internal surfaces, impairing vision through the glass and permanently damaging the insulating glass, which then must be replaced at a significant cost to the owner. Single-seal sealant systems often carry a five-year warranty against seal failure whereas double-seal systems typically come with a ten- to twenty-year warranty.



Single-seal Insulating Glass
Source: Pella Corporation



Double-seal Insulating Glass
Source: Pella Corporation



Wayland Union Middle School, Wayland, MI, by Design Plus, Inc., shows how dual glazing with between-the-glass window treatments reduces maintenance.

Dual glazing comprises two single glass panes set individually into a window frame of aluminum or wood. (Vinyl and fiberglass frames do not typically offer a dual glazing option.) Dual glazing relies on a gasket and vent system design to keep moisture out of the air space and from forming on internal glass surfaces. The space between panes of glass can vary in size to hold blinds or other shading devices and to buffer outside sound, temperature changes and wind. In most cases dual glazing systems offer a life cycle cost advantage over windows with sealed insulating glass since they are not subject to the seal failure commonly associated with insulating glass systems.

The table below shows a comparison of sealed insulating glass and dual glazing—at a quick glance, both offer similar advantages in terms of aesthetics, cost, and thermal performance. However, the IGU accommodates a wider range of fenestration types and larger glass sizes, while dual glazing offers a longer life, easier re-glazing, between-glass options, less sound transmission, and better thermal performance when between-glass blinds are included.

Comparison of Dual Glazing and
Insulating Glass based on Selection Criteria

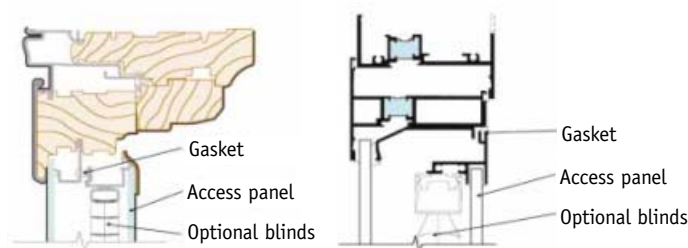
Glazing System Selection Criteria	Dual Glazing	Insulating Glass
Fenestration Type		+
Glass Size		+
Longevity	+	
Re-glazing	+	
Between-glass Options	+	
Thermal Performance	=	=
Thermal Performance with blinds	+	
Cost	=	=
Aesthetics	=	=
Sound Transmission	+	

Both dual glazing and insulating glass units can accommodate between-glass options such as blinds and muntins. In a dual glazing system the interior glass panel is typically designed as an access panel, allowing blinds/shades to be serviced for maintenance/repair.

However, when the blinds in an insulating glass unit break, the entire piece of insulating glass requires replacement.

When blinds are excluded, the difference in cost between a window with insulating glass and one with dual glazing is negligible. The initial price of a between-glass blind is slightly higher than a room-side blind of similar quality. However, between-glass blinds do not have the future life-cycle costs associated with room-side blinds (i.e. cleaning and replacement due to damage).

When comparing insulating glass to dual glazing, the only differing acoustic factor is the air space between the panes of glass. The larger air space associated with dual glazing results in less sound transmission through the window and a sound transmission class (STC) rating at least 15% better, with additional improvements in STC as the air space increases.



Examples of Wood and Aluminum Windows with Dual Glazing
Source: Pella Corporation

When sealed insulating glass is broken, the entire unit must be replaced. However, with the large air space between the panes in a dual-glazed window, it is uncommon for both to be broken simultaneously. When the exterior pane is broken, the interior pane remains intact and provides protection or vice versa.

Thermal Performance of Insulating Glass and Dual Glazing

Glass Type	Visible light transmission	Ultraviolet light transmission	Solar heat gain coefficient	U-value of total unit
Clear insulating glass	81 %	56 %	0.76	0.54
Clear dual glazing	81 %	56 %	0.76	0.50

The above table shows clear dual glazing offers a better total window U-value than clear insulating glass while all other values are the same. When closed blinds are added to the window, dual glazing with between-the-glass blinds offers an 18% improvement in total window U-value and a 43% improvement in solar heat gain coefficient (SHGC) over a window with room-side blinds.

In addition to using layers of glazing and controlling the properties of the spaces between them, the Web site www.efficientwindows.org suggests improving the energy performance of glazing products by changing the chemical composition or physical characteristics of the glazing material by adding a tint or by applying a low-emittance (Low-E) coating to the glazing material surface to reduce heat gain and glare.

Framing Materials

The next consideration is window frame material. The window frame must do several things. It should provide strength to withstand wind and other loads, drainage for water and accommodate weather

stripping, glazing channels and rabbets, weep holes, internal gutters, screw bosses, concealed fasteners, flashings, drips, corner keys, thermal breaks, hardware, and frame accessories.

Properties of the framing material affect the thickness and weight of each window. A suitable material can be chosen from four available options: wood, aluminum, vinyl and fiberglass. Each one has properties that make it more appropriate for certain applications.

Wood is one of the oldest building materials and has been the traditional frame material in all types of buildings primarily because it has been consistently and readily available and can be milled into many shapes to fit simple or complex designs. Wood-framed windows also can have an exterior cladding of vinyl or aluminum to increase weather-resistance while retaining an attractive wood finish on the interior.

Aluminum is a popular window frame material appreciated for its light weight and durability, but it has the disadvantage of high thermal conductance. This nonferrous metal is made from bauxite and cryolite and can be extruded into simple or complex frames. It is available in a variety of anodized and painted finishes. Aluminum is considered mostly for commercial and institutional use and when manufactured with a high percentage of recycled content adds value in green building.

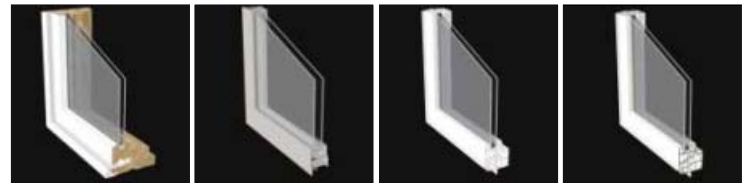
Vinyl (also known as polyvinyl chloride or PVC) is newer than wood or aluminum as a window frame material and is derived from fossil fuels. It offers good insulating values and has good moisture resistance. Some recent advances have improved dimensional stability and resistance to degradation from sunlight and temperature extremes. Vinyl is considered a residential material and because PVC formulations for windows are not consistent throughout the industry, quality and performance can vary.

As window framing material, fiberglass (glass-fiber-reinforced polyester) is an emerging product. Fiberglass framing products were developed in the 1990s and currently are used in less than 2% of today's market. Fiberglass is a composite that can be pultruded into lineal forms. Because the material is stronger than vinyl, it can have smaller cross-sectional shapes and thus less area. It provides exceptional thermal stability, strength, and durability.

The Selection Process

Four window types are commonly used in commercial structures: double-hung, casement, fixed and awning. A double-hung window consists of two sashes operating in a rectangular frame with upper and lower halves able to slide up and down. A casement window swings open on side hinges. A fixed window has no operating sashes, and an awning window is similar to casement, but the sash is hinged at the top and always swings out.

Aluminum-clad wood windows offer high thermal performance and unified appearance at Rochester Hills Public Library, Rochester Hills, MI, by TMP Associates, Inc.



Aluminum-clad wood

Aluminum with thermal break

Vinyl

Fiberglass

Source: www.efficientwindows.org

How Window Materials Meet Selection Criteria

	Wood	Aluminum	Vinyl	Fiberglass
Aesthetics	Warm, natural beauty; many finish options	Many finish options	Limited color options	Many color options
Energy Efficiency	Natural insulator	Natural conductor	Good insulator	Good insulator
Environmental Impact	Very low embodied energy; can be recycled	High embodied energy; can be recycled	Medium embodied energy; not recyclable	Low embodied energy; limited recyclability
Price	Medium to high first cost; low long-term cost	Medium to high first cost; low long-term cost	Low first cost; higher long-term cost	Low first cost; low long-term cost
Durability	High	High; but potential for thermal break failure	Low; cracks easily	High
Maintenance	Interior wood surfaces may need refinishing; scratches can be repaired	Low; not scratch resistant	Low; may require early window replacement	Low; high scratch and dent resistance

Aesthetics

The choice of materials is influenced by the architect's perspective and the project design intent. Several things must be considered: scale and proportion, sightlines, relationship to other interior finishes, frame profiles, and glass types. Hardware and location of window treatments (room side or between-glass blinds) also influence the choice of frame material.

Of the four framing materials, wood is unique because it allows different finishes for the interior and exterior and provides a warmth and natural beauty not offered by the other materials.

Aluminum offers a broad selection of anodized and painted finishes that typically are the same on both sides. Aluminum can be combined with wood in an aluminum clad wood frame that offers the warmth and natural beauty of wood on the interior and the durability of aluminum on the exterior.

Vinyl framing offers few color choices and has the same finish on both sides. Medium to dark colors are especially limited. Some manufacturers offer surface treatments such as laminates or other coating options to increase color selection and surface appearance.

Fiberglass has high design flexibility with many color options. The material is typically painted the same color on both sides but offers the potential for different colors on the exterior and interior.

Energy Efficiency

The energy efficiency of the windows has a significant impact on the overall annual operating costs of a building. To obtain the best energy efficiency from a window three factors must be evaluated: thermal performance, condensation resistance and occupant comfort. Additionally, because installation can affect window



Wood windows optimize design performance and budget flexibility at the F.M. Kirby Shakespeare Theatre, Drew University, Madison, NJ, by Ford Farewell Mills and Gatsch, Architects

performance, the manufacturer's installation instructions should be evaluated and followed for optimum performance.

To compare thermal performance look at the R-values and U-values. The R-value measures resistance of glazing material or fenestration assembly to heat flow. Materials with higher R-values have higher resistance to heat flow and are better insulators. The U-value measures the rate of non-solar heat loss or gain through a material and may be expressed for the glass alone or the entire window including frame and spacer material. The lower the U-factor, the greater a window's resistance to heat flow and the better its insulating value.

Choice of materials has a bearing on both these factors. For example, in Chapter 30 of the 2001 *ASHRAE Fundamentals Handbook*, the addition of a thermal break in an aluminum frame improves the U-value from 1.92 to 1.13. An aluminum-clad wood frame further improves the frame U-value from 1.13 to 0.51.

The handbook also indicates that total Unit U-values for the entire window include both the frame and glass. The range for aluminum windows with thermal breaks is from 0.35 (triple glazing with low-E coatings) to 0.64 (double glazing with clear glass). For aluminum-clad wood windows the range is from 0.25 (triple glazing with low-E coatings) to 0.53 (double glazing with clear glass). The glass is the same so the difference in U-values is a result of changing frame material.

The National Fenestration Rating Council (NFRC) is a reliable source for determining window energy properties and comparing products. NFRC rates window units for U-factor, SHGC, visible light transmittance (VT), and air leakage (AL).

Another factor that affects window thermal performance is air infiltration. Air leakage heat loss and gain occur by infiltration through cracks in the window assembly. This is indicated by an AL rating expressed as the equivalent cubic feet of air passing through a square foot of window area. The lower the AL, the less air will pass through cracks in the window assembly. Select windows with an AL rating of 0.30 cfm/sq ft or less.

Resistance to condensation also is important. Condensation on window frames can damage interior windowsills, finishes and eventually walls and floors. Specifying products and design conditions that regulate surface temperatures and moisture in the air will minimize potential for condensation.

Materials with greater resistance to condensation also provide greater comfort to occupants seated near windows, and occupant comfort has a direct impact on worker productivity.

Wood is considered the best performer from a thermal point of view. It is a natural insulator with excellent resistance to condensation and a high degree of thermal comfort.

Aluminum is a natural conductor and therefore has poor energy efficiency and low resistance to condensation. Aluminum's R-value is minimal and raises the overall U-factor of a window unit. In cold climates, an aluminum frame can become cold enough to condense moisture or frost on the inside surfaces.

A desirable combination for thermal performance and comfort is an aluminum-clad wood window. This alleviates differences in exterior and interior frame temperatures, offering resistance to condensation, greater thermal comfort and lower annual energy costs than thermally-broken aluminum windows.

The average annual savings from the use of aluminum-clad wood windows is fairly consistent across the United States: 27% to 31% compared to single-glazed aluminum windows without thermal breaks; 6% to 9% compared to thermally-broken aluminum windows.

Vinyl has the same thermal efficiency as wood and in terms of thermal performance vinyl frames are comparable with wood. However, vinyl's expansion and contraction encourages air and water infiltration which increases maintenance and damage issues.

Fiberglass offers thermal efficiency similar to wood and the lowest expansion and contraction rates of all four materials. Less expansion ensures a consistent bond between sash and glass and reduced energy costs as well as less stress on joints for greater durability.

Environmental Impact of Materials

The choice of windows can add value to a structure and the environment. The most commonly used evaluator of a structure's environmental impact is the U.S. Green Building Council's LEED® (Leadership in Energy and Environmental Design) Green Building Rating System. This guide for designing, constructing, operating, and certifying buildings is based on accepted energy and environmental principles.

LEED's measurement standard follows a point system. The four levels of LEED certification and required points for each are:

Certified	26 - 32 points
Silver	33 - 38 points
Gold	39 - 51 points
Platinum	52+ points (69 possible)

The points are earned within six categories. The five environmental categories (not including Innovation and Design Process) are divided into credits. One or more points are available within each credit, and points are achieved by meeting specified requirements.

- Sustainable Sites: 8 credits, 14 points
- Water Efficiency: 3 credits, 5 points
- Energy and Atmosphere: 6 credits, 17 points
- Materials and Resources: 7 credits, 13 points
- Indoor Environmental Quality: 8 credits, 15 points
- Innovation: 4 points

CLICK FOR ADDITIONAL REQUIRED READING

The article continues online at:

archrecord.construction.com/resources/conteduc/archives/0505pella-1.asp

To receive AIA/CES credit, you are required to read this additional text. For a faxed copy of the material, call Pella at 1-800-84-PELLA.

The following quiz questions include information from this material.



**AIA/ARCHITECTURAL RECORD
CONTINUING EDUCATION Series**

LEARNING OBJECTIVES

- Understand window selection criteria and its impact on your projects and clients;
- Identify primary advantages and disadvantages of different window framing materials in commercial buildings;
- List and compare the advantages and disadvantages of sealed insulating glass and dual glazed systems; and
- Establish a method to determine the most appropriate window system for future projects.

QUESTIONS

1. Which of the following has the greatest affect on energy efficiency and building operating costs?
 - a. Window size
 - b. Glass selection
 - c. Frame material
 - d. Window covering
2. The most commonly chosen systems for commercial structures are sealed insulating glass and dual glazed systems. The difference in first cost between these systems is minimal.
 - a. True
 - b. False
3. In most cases, which glazing system offers a life cycle cost advantage?
 - a. Dual glazing
 - b. Sealed insulating glass
4. Of the four window frame materials, which one has the highest thermal conductance and embodied energy?
 - a. Wood
 - b. Aluminum
 - c. Vinyl
 - d. Fiberglass
5. Which of the four window frame materials has the lowest thermal conductance and embodied energy?
 - a. Wood
 - b. Aluminum
 - c. Vinyl
 - d. Fiberglass

INSTRUCTIONS

Refer to the learning objectives. Complete the questions below. Go to the self-report form on page 381. Follow the reporting instructions, answer the test questions and submit the form. Or use the Continuing Education self-report form on *Record's* website—archrecord.construction.com—to receive one AIA/CES Learning Unit including one hour of health safety welfare credit.

6. What measures can be taken to maximize the energy performance of windows?
 - a. using layers of glazing
 - b. specifying between-the-glass blinds in lieu of room-side blinds
 - c. applying a low-E coating to the glazing material surface
 - d. using wood or fiberglass frames
 - e. all of the above
7. What framing system is rated as having the least environmental impact?
 - a. Wood
 - b. Aluminum
 - c. Aluminum clad-wood
 - d. Vinyl
 - e. Fiberglass
8. Material with higher R-values has less resistance to heat flow and is a better insulator.
 - a. True
 - b. False
9. If the glass remains the same, a change in the frame material can improve the U-value for the entire window?
 - a. True
 - b. False
10. In which of the LEED environmental categories can windows not earn points?
 - a. Sustainable Sites: 8 credits, 14 points
 - b. Water Efficiency: 3 credits, 5 points
 - c. Energy and Atmosphere: 6 credits, 17 points
 - d. Materials and Resources: 7 credits, 13 points
 - e. Indoor Environmental Quality: 8 credits, 15 points

About Pella

Pella Corporation is a world leader in the manufacturing of premium windows and doors. Long-recognized in the window industry for its technology and innovation, the company holds more than 100 U.S. product and design patents.

Registered with the American Institute of Architects as a Continuing Education System provider since 1995, Pella is committed to developing quality learning activities in accordance with AIA/CES and Health/Safety/Welfare (HSW) criteria. Pella offers several continuing education programs through www.pellacommercial.com in addition to this partnership with *Architectural Record*.

Pella also awards scholarships to top students at leading universities and schools of architecture. Please contact your local Pella architectural consultant for more information about these programs.

VIEWED TO BE THE BEST.®



800-84-PELLA
www.PellaCommercial.com

CIRCLE 367 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Greater Vision: Alternate Window Materials in Commercial Buildings **297**

McGraw Hill CONSTRUCTION Sweets Product Marketplace

The largest, most
up-to-date collection
of architectural
catalogs online

Spend less time searching and more
time designing at sweets.construction.com

Now every catalog in Sweets Catalog Files is online at
Sweets Product Marketplace, the most authoritative
industry product information source for nearly a century.

- **Explore:** 61,000+ of the most updated products,
all in one Product Marketplace, all classified by
CSI MasterFormat™ '04
- **Download, copy, paste:** 1,800 PDF format
architectural catalogs, 4,000 3-part specs, and
15,000 CAD details instantly

Register now at sweets.construction.com to become
a member and enter to win an Apple iPod mini.



For more information about putting your catalog in the Sweets Product Marketplace, call 1-800-394-4309.

connecting people_projects_products

McGraw Hill
CONSTRUCTION

Find us online at www.construction.com

SPMAR205

The McGraw-Hill Companies

TlFe800H

**SWEETS
PRESENTS**

The Art of Product Research and Selection



Performance characteristics are important product evaluation criteria.
(Photo: RTKL)

*Design is not making beauty,
beauty emerges from selection,
affinities, integration, love.*

Louis I. Kahn, FAIA, (1901-1974),
1971 AIA Gold Medalist

*You've got to bumble forward
into the unknown.*

Frank Gehry, FAIA,
1999 AIA Gold Medalist

By Barbara A. Nadel, FAIA

In recent years, cultural trends, technology, innovation and discovery have inspired the creation of hundreds of new materials and products, which, when combined, provide design solutions for problems that didn't exist a generation ago. The vast array of new and existing building products and emerging technologies reflects the dilemma facing design professionals who must research and choose elements integral to project aesthetics, functions and budgets.

Two 21st century concerns, sustainability and security, are increasingly important design criteria for owners. Sustainability has heightened awareness among design professionals, manufacturers, clients, and the

Barbara A. Nadel, FAIA is principal of Barbara Nadel Architect, in New York City, and writes frequently about design and technology.

CONTINUING EDUCATION



Use the learning objectives below to focus your study as you read **The Art of Product Research and Selection**. To earn one AIA/CES Learning Unit, including one hour of health safety welfare credit, answer the questions on page 303, then follow the reporting instructions on page 382 or go to the Continuing Education section on archrecord.construction.com and follow the reporting instructions.

LEARNING OBJECTIVES

After reading this article, you should be able to:

- Explore methods and best practices on the art of product research and selection.
- Analyze product evaluation criteria used by established architectural firms and seasoned design professionals when specifying products.
- Understand information typically required for approval of product substitutions on projects
- Review the types of product information generally required during various project phases.

building industry about the opportunities for exciting new products and materials to meet Leadership in Environmental and Energy Design (LEED) standards. From tax credits, to enlightened owners seeking to be environmentally responsible, sustainable products and best practices are more prevalent in all building types. Similarly, in the post 9/11 era, the standard of care is still evolving for security design. New and existing buildings must be able to address the lessons learned from 9/11, through security-driven life safety codes, industry standards, and durable, new products designed to withstand blasts and natural forces, especially in civic buildings, and other high risk targets.

Keeping current on these developments, and many others, is essential for design professionals at every level of experience and job title. New products, materials and ideas emerge constantly, while older, or less successful models are discontinued with little fanfare. The task for design professionals is to identify what they need, sift through what's out there, study past and anticipated performance, and learn to evaluate what they are looking at to ensure that the products selected and specified are appropriate for each project application.

Specification writers work with manufacturers constantly, and their job ensures that they remain on top of the industry. But for seasoned design professionals with years of experience, as project managers, designers, and technical coordinators, many of the materials and methods they learned about in school have often been superseded by new, emerging technologies and products, making their job even more challenging. Younger professionals are comfortable surfing the Internet for product information, but to be most effective in their searches, they must be open to embracing a variety of print resources, multimedia and professional activities. That is perhaps the most important message for educators to convey to students, since today's hot new material may be obsolete in four years.

Clients and owners are increasingly design and budget conscious, especially in an era of limited resources among many public and private sector organizations. Large organizations with ongoing capital programs may have a palette of preferred products and vendors, making the search process easier and faster. Savvy facility managers and in-house design professionals may take a pro-active, hands-on approach to product evaluation and selection ("here are the brands we find acceptable") or they may be open to new ideas ("let's see what you find to be aesthetic and reliable"). Government agencies generally require three specified products (or ask for equals), potentially tripling the amount of research needed for every major item.

Design consultants should remain aware of the degree of involvement clients wish to maintain during product research and selection, to ensure that project needs are met. Client involvement may vary when dealing with highly visible design elements, such as building envelope and window systems, to the hidden, more functional components that keep their facilities operational, such as insulation systems.

Everyone loves to investigate new and exciting marketplace innovations, but few brave souls want to be the first to use them in projects, due to the lack of historical performance data and the inherent risk of potential liability for owners and design professionals.

Collectively, all of these factors converge to make the art of product research more sophisticated than ever before, and more critical to overall project success. This article will explore best practices on the art of product research and selection by examining how design professionals go about finding information. Various methods will be discussed, along with product evaluation techniques, and networking opportunities used by large, medium and small firms. For brevity, the term "product" will apply to building industry materials, coatings, furnishings, finishes and equipment, unless noted.

Process Not Product

Many architects learn about addressing "process, not product" during their design training. Essentially, the methodology of seeking information and problem solving is the most important part of the journey leading to a design solution. Asking good questions, exploring alternatives and developing options are vital steps. Large organizations with strong purchasing power may have the ear of the industry and get involved with product development, while small to mid-sized firms may work harder on finding design information in order to maintain their edge.

PRODUCT INFORMATION RESOURCES	PEOPLE RESOURCES FOR PRODUCT INFORMATION
Catalogues, especially comprehensive multi-volume industry references	Architects
CD-ROM disks from manufacturers	Building owners and landlords
Focus groups	Clients
Internet – manufacturer websites and emails	Colleagues
Mailings	Consultants
Manufacturer brochures	Contractors, construction managers
Networking	Engineers
Office library	Facility managers
Professional organizations	Government agency personnel
Publications: books, magazines, newspapers, newsletters	Interior designers
Seminars	Landscape architects
Showrooms	Manufacturers
Site visits	Sales representatives
Trade shows and conventions	Specifications writers
Travel	Suppliers

How Large Organizations Approach the Discovery Process

Large firms, public agencies, and in-house facility managers with high dollar volumes of work often approach product research and selection differently than small to mid sized organizations. Firms specializing in project types, such as education, historic preservation, or office interiors, for example, may have longstanding relationships with industry representatives. With greater purchasing power and opportunities, many major manufacturers routinely seek out large organizations to show them new products and developments in the pipeline. Sometimes they will invite designers to participate in focus groups. These trusted relationships provide design professionals with more choices to share with clients, and allow them to work directly with manufacturers to customize and develop new products for specific needs. Large organizations often devote significant resources and personnel to product research.

Herbert Lynn, AIA, Associate Partner, and Director of Research and Specifications for Skidmore, Owings and Merrill, New York City, works on every project in the office. During conceptual phases, designers go to the staffed materials and catalogue libraries, containing samples from every manufacturer in the world, to see what may be useful. Binders contain samples, agency approvals, New York City-approved testing methods, and where a material is installed in New York City. The materials library lighting is color corrected and located to allow natural light, fluorescent and incandescent lighting into the space, to simulate proposed conditions.

The New York-based SOM Lab, a firmwide clearinghouse for design concepts, researches product performance, and new, innovative materials and systems from around the world. If a question arises regarding titanium, for example, the Lab accumulates information and sends inquiries to SOM offices on the internal intranet, while searching for related materials.

Searches include contacting architects, manufacturers and fabricators in Europe, if need be, to find information. Topics evolve based on project need, such as curtain wall, point supported glass, metal and green roofs. Information is reviewed by the firm's Technical



Lighting in SOM's material library is color corrected and can be manipulated to simulate proposed project lighting. The library is located to allow natural light, fluorescent and incandescent lighting into the space, so any combination is possible. (Photo: Skidmore, Owings and Merrill)

Group, which establishes product evaluation criteria, such as codes, liability, durability, past product history and location. Findings are posted on the office intranet for internal distribution.

"We balance innovative research against potential liability risks. We review constructability and budgets, and will speak with engineers, and research and development groups, not just local sales representatives. Hard copy data, printed catalogues, PDF files, and CAD details are very useful," says Lynn.

Once products are selected, meetings are held with manufacturers and fabricators. During the project concept phase, sample palettes are developed, and codes reviewed. For example, using glass calls for preliminary energy calculations, percentage of allowable glass, and products applied to previous projects. Documentation lists products used for each project, citing finishes, manufacturer, and location, and is available to team members. During the construction documents phase, the project team knows what is being used and where. An in-house committee organizes over 60 luncheon seminars annually, with product sales representatives.

Substitution Requirements

Occasionally, product substitutions must be made due to cost, availability, or contractor request. Understanding that product substitutions can have a dramatic effect on a building project, SOM maintains rigid criteria for considering substitutions, to ensure that steps are taken to verify that a proposed substitution is valid. Each substitution request is internally reviewed by SOM, and requires extensive documentation by the contractor or subcontractor. Minimum standards apply, and additional information may be required for submission, depending on the type of product or system evaluated. The contractor or subcontractor must submit the following to substantiate the substitution:

1. Product data, including drawings, fabrication, and installation procedures.
2. Samples, where samples of the specified products are requested.
3. A detailed comparison of significant qualities of the proposed substitution with those of the material or work specified. Significant qualities may include elements such as size, weight, durability, performance, visual effect, code compliance, maintenance requirements, energy usage, and environmental considerations.
4. Coordination information, including a list of changes or modifications made necessary to other parts of the work, including the work of other trades that will become necessary to accommodate the proposed substitution.
5. A statement indicating the substitution's effect on the contractor's construction schedule, indicating the effect of the proposed substitution on overall contract time.
6. A cost comparison between the product specified and the requested substitution, including a proposal of the net change, if any, in the contract sum.

Liability

Product liability is always on the minds of design professionals throughout a project. The standard of care within the profession is a benchmark used to determine what other architects are doing. Related factors include how long a product has been in the



*A well-stocked material library, with catalogues and samples, is an essential tool during early project design phases.
(Photo: Skidmore, Owings and Merrill)*

marketplace, how well it performs, and any problems that have occurred elsewhere. New products, materials and systems may not have any history, leaving the due diligence and research to the architect.

Innovation

SOM's Director of Strategic Innovation works with several major manufacturers to develop new products for use in projects and in the marketplace, including carpet and ceiling tiles, insulation and wall panels. In these cases, the firm identified a need, and worked with manufacturers to create new products.

Interiors

"Web searching is only one component of the discovery process. We supplement our print library with manufacturers' websites for updates, CAD details and photos, for drawings and presentations," says Dale A. Greenwald, Interior Design Director, Cannon Design, New York City. Other techniques include focus groups, publications, and trade shows, which provide exposure to a lot of information in a short amount of time, along with a chance to make comparisons. Monthly staff meetings cover discussion about new or interesting products. The staff compiles a database of favorite products, sorted by category. Greenwald's interiors group typically investigates solid surfaces, wood, stone, laminates, flooring, coatings, lighting, and textiles. Evaluation criteria are applied for each product, as follows:

1. Performance characteristics
2. Testing methodologies and results
3. Installations (local and largest)
4. Warranties
5. References (client, installer, contractor)
6. Sustainability
7. Availability – lead times, install times
8. Installer Recognition – familiarity or training
9. Cost (comparatively to other similar products or materials)
10. Advantages and Disadvantages



Color selection generally occurs after products and materials have been evaluated and chosen.
(Photo: RTKL)

Designer Robert Berry, AIA, LEED AP, Principal, RTKL, Baltimore, Maryland weighs novelty versus performance when searching for new materials and products. For a Baltimore office building lobby, Berry was searching for something different to address a design issue. He stumbled upon a sample in the firm's interiors library and wanted more information. The paint finish on the metal sample was a technique developed locally, without a history of other applications. He visited the local shop, where the owner was reluctant to share details of his proprietary process. Berry and his specifications writer carefully evaluated the technique, and reviewed many samples before specifying the process.

An advantage for many large firms, especially those specializing in a few building types, is the established relationships they have with many companies and suppliers, which reduces the need for constant product research. "These companies are always in the office, doing luncheon seminars, sharing what's in the pipeline, so we know where the market is going. Using search engines at the outset has become second nature, but construction industry search engines and paper catalogues provide a full collection of information, in addition to a substantial office material and product library. Bookmarking favorite sites saves time. We use PDFs constantly, especially photos of materials, because they are easy to print, file, add to the project binder, and use in presentations. We document what we use, and where, for future reference," Berry says.

RTKL does a lot of international work, which means more due diligence when checking out local fabricators, products and company histories to determine what is cost effective and best for the client. Typically, the firm works with a local architect during design development, and both firms select materials to achieve a desired look. In one instance, Berry specified granite for an office building in Poland, and wanted to work with local suppliers and distributors. He sent U.S. samples to the client and local architect, and flew to Poland to find a close match that would meet performance criteria, quality and aesthetics. "We set the direction of the material palette early on, and remained open minded. The choices may be different abroad, but as long as everyone understood cost and value, we were usually able to match materials without a problem," says Berry.

Materials Resource

"We have our antennae up for new products and manufacturers all the time. If we see something we like, we track it down, online and through other research. New products with blast coverage in magazine ads get our attention," says Margaret Helfand, FAIA,

principal of Helfand Architecture PC, in New York City. Her 10-person design-oriented practice relies on remaining aware of and finding fresh concepts and materials. Helfand's office belongs to a subscription-only New York City-based materials resource library and website that enables designers to review unusual new products at their convenience. The showroom serves as an industry connection among designers and manufacturers who want to reach small and medium sized firms. Members make an appointment, and can review samples, technical information, and product profiles. Large firms with high volume work generally maintain an extensive in-house materials library and don't have a need for an outside service.

Helfand has found several sustainable products at the showroom, such as a "bio-based" composite material created from sunflower seed hulls, an abundant agricultural fiber. The material exhibits the natural qualities of traditional burl wood, making it an environmental and economical alternative to hardwood. She used this material as a bumper guard in a college project. "One of our evaluation criteria was the ability to withstand high impact. The material is homogeneous, like birds-eye maple on steroids. When it chips, more of the same material is exposed, and it is able to sustain impact," says Helfand.

"The product library is our 'high altar,' a focal point for the office. We approach each project as an art form, inventing new design elements and features, by customizing standard systems and products. Samples are sorted in bins by Construction Specifications Institute (CSI) category. We have samples in active use, those from past projects, and those we love and want to use. When researching materials, we might find something we like and will find a way to use in future projects. When new samples arrive, we look at them, and add them to our computer database, to track contact information and manufacturers. During early project phases, from concept design, feasibility studies and schematics, we consider major materials. Budgets, materials and outline specifications begin immediately. Early on, we identify appropriate materials that are visually exciting and durable. If we need resilient flooring or special glass, for example, we go through the samples and see the manufacturer names," she adds.

For an urban school expansion project, where blending a historic building with the street was important, Helfand wanted a lead coated copper wall material with a granite base. A sheet metal book, calls to vendors, finding details online, and intensive investigation by various search methods enabled the project team to locate the needed information. During the construction documents phase, the team continues to work with manufacturers and vendors for obtaining technical data.

Building product sales representatives are an important link between manufacturers and design professionals. The firm librarian charged with maintaining catalogues and sample libraries can research with manufacturers, saving time for designers. This process can greatly influence determining whether products meet project criteria, leading to specification.

An eclectic approach to finding products on the Internet invariably leads to various sources, says project manager John Tinmouth, of Helfand Architecture. He often begins with a general or building industry search engine to find more established products, and supplements his search with architectural trade magazines and design-oriented websites. Tinmouth, like others in his office, enjoys showroom visits to see products that are not generally commercially available. At least one consultant he knows in New York works with sales representatives from different manufacturers to collect new products and share them with design firms seeking fresh, unique approaches. ■

CLICK FOR ADDITIONAL REQUIRED READING

The article continues online at:
archrecord.construction.com/resources/conteduc/archives/0505sweets-1.asp

To receive AIA/CES credit, you are required to read this additional text. For a faxed copy of the material, call Sweets at 1-800-394-4309.
The following quiz questions include information from this material.



**AIA/ARCHITECTURAL RECORD
CONTINUING EDUCATION Series**

LEARNING OBJECTIVES

- Explore methods and best practices on the art of product research and selection.
- Analyze product evaluation criteria used by established architectural firms and seasoned design professionals when specifying products.
- Understand information typically required for approval of product substitutions on projects
- Review the types of product information generally required during various project phases.

INSTRUCTIONS

Refer to the learning objectives above. Complete the questions above. Go to the self-report form on page 382. Follow the reporting instructions, answer the test questions and submit the form. Or use the Continuing Education self-report form on *Record's* website—archrecord.construction.com—to receive one AIA/CES Learning Unit including one hour of health safety welfare credit.

QUESTIONS

1. All of the following are effective resources for design professionals to obtain product information except which?
 - a. Print catalogues
 - b. Manufacturer websites
 - c. Construction industry search engines
 - d. Billboards
 - e. Seminars
2. According to design professionals, all but which of the following are advantages of using electronic files in PDF format for product research?
 - a. Ease of access from the Internet
 - b. Useful for developing client presentations
 - c. Appropriate for sharing product information within the office and project team
 - d. Contain technical information, such as sizes, strength, flame ratings
 - e. Provide videos of product performance
3. Key factors influencing whether or not a design professional will specify a new product or manufacturer on the market are:
 - a. Extensive availability of colors and finishes
 - b. Risk of potential liability
 - c. Ease of installation
 - d. Extent of available historical performance data
 - e. All of the above
4. During the schematic design and design development phases, typical product information required by design professionals includes all but which?
 - a. Construction details
 - b. Availability
 - c. Shop drawings
 - d. Sustainability applications
 - e. Performance criteria
5. When a contractor requests a product substitution, what information is generally not required for the architect's review, in order to approve the substitution?
 - a. Fabrication drawings
 - b. Installation procedures
 - c. Magazine advertisements showing the proposed product
 - d. Detailed comparison of the cost and qualities of the proposed substitution and the item specified.
 - e. Samples of the proposed product
6. Product research techniques often vary between large firms, and small to mid-sized firms. Reasons include:
 - a. Major manufacturers seek out large firms to keep them apprised of new developments
 - b. Large firms generally have more extensive in-house materials libraries
 - c. Smaller firms are more likely to use outside services to assist in finding new products
 - d. All of the above.
7. Product selection evaluation criteria during early design stages of a project generally includes all but which of the following:
 - a. Color selection
 - b. Durability
 - c. Performance history
 - d. Sustainability
 - e. Advantages and disadvantages
8. All of the following kinds of lighting in materials and samples libraries are appropriate to simulate typical lighting conditions within various building types except which?
 - a. Natural daylight
 - b. High pressure sodium
 - c. Fluorescent
 - d. Incandescent
9. Searching the Internet for product information has advantages and disadvantages. Some disadvantages from web searches include:
 - a. Many irrelevant websites come up
 - b. False paths when looking for a certain product type
 - c. Colors on the computer screen are not an exact match to samples
 - d. Up to 80 to 90 percent of time spent searching the Internet is unproductive
 - e. All of the above.
10. Facility managers at large government agencies and organizations are most concerned about which of the following product evaluation criteria:
 - a. Manufacturer's track record on repair, replacement, troubleshooting and service calls
 - b. How often a product is used in a 24-hour cycle
 - c. Life cycle costing
 - d. Rigorous performance criteria and field testing
 - e. All of the above.

About Sweets

Sweets Product Marketplace provides the largest, most up-to-date collection of architectural catalogs, CAD details, and 3-part specifications. Visit us online at www.sweets.construction.com.

McGraw Hill
CONSTRUCTION Sweets
Product Marketplace

TLFeBOOK

IMAGINE THE RITE DOOR®

The real beauty of this versatile door system is in your imagination.

We could tell you about all the advantages of The RITE Door for your commercial openings. Like how it has pre-installed hardware for trouble-free installation and performance, and how it fits perfectly with virtually any application—from hospitals and hotels to retail office spaces and schools. And, how it can also blend completely into the architecture or make its own design statement with its wide range of colors, textures and finishes. But, what really matters is all the ways you can imagine it.

So go ahead, use your imagination.

Visit www.adamsrite.com/theritedoor4 to see more. Or, call: 1.800.87.ADAMS or Email sales@adamsrite.com for further details.

Architect: Nadel Architects, Inc., *Installers:* Don La Force Associates, Inc.



ADAMS RITE
MANUFACTURING CO.

CIRCLE 130 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

TLCe800H

BELDEN

THE BELDEN BRICK COMPANY

Canton, Ohio / (330) 456-0031

www.beldenbrick.com

An ISO 9001:2000 Registered
Quality Management System



Colors

Belden Brick is available in a world of colors including soft whites and creams, golden buffs and dusty tans, delicate pinks and cinnamon reds, chocolate browns, pewter grays and coal blacks. With so many colors to choose from your options are truly endless. Here is a small sample of over 200 color ranges, 13 textures and 16 different sizes.

Landmarks in Brick

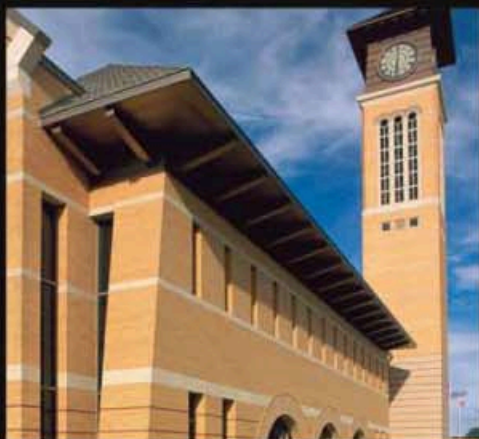
Sizes & Shapes

More sizes mean lower wall costs. With as many as sixteen different sizes to choose from Belden has the size you need. Plus, Belden has made thousands of special shapes to provide special details for individual projects. Need an "impossible" shape for your project? Then call Belden Brick and learn how the impossible can become reality.



Textures

Belden Brick offers thirteen different textures that range from silky smooth finishes to rugged randomly textured styles. Each texture can make its own distinctive contribution to the visual impact you seek.



CIRCLE 131 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

CHMI

A Proud USA Factory

North America's Finest Quality Products
CUSTOM HARDWARE MANUFACTURING, INC.
 800.262.2464 sales@chmi.com www.chmi.com



New Bath & Shower Enclosures & Hardware



New & Innovative (Rolls In Glass) Smooth Sliding Shower Systems



New Styles in Sliding Office Systems



New & Cost Effective Custom Designacast Signage



Standard Shapes & New Custom "Designacast" Personalized Handles



New Smart Touch Electronic Handle System Applications

See us at
 AIA Booth #871



New Designer Spider Fittings, Canopy & Interior Fittings

Design

Innovation

Quality

CIRCLE 132 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

ILLUSTRATION

BREW EXPRESS™

Fits in your wall  *Fits in your life*



~ MEET THE WORLD'S FIRST TRULY ~
BUILT-IN-THE-WALL, SELF-FILLING COFFEE SYSTEM.

The revolutionary new design of the Brew Express blends style, performance and convenience into an easy-to-use appliance that makes brewing coffee and hot beverages a pleasure instead of a burden. The Brew Express installs into the wall and hooks directly to your water supply, so it also fits right into your life. You'll gain counter space and enjoy perfectly brewed coffee, all without spilling a drop of water.

TRI STATE DISTRIBUTORS 253-872-2900
PURCELL-MURRAY 800-892-4040
FREED APPLIANCE DISTRIBUTORS 800-613-7333

OAKTON DISTRIBUTORS, INC. 800-262-5866
DOOLITTLE DISTRIBUTING 913-888-7820
STOVER SALES 704-597-1700
FAXON DISTRIBUTING 860-290-8427

CARL SCHAEDEL & CO. 973-244-1311
UNITED PRODUCTS DISTRIBUTORS 410-866-6800
ARD DISTRIBUTORS, INC. 800-654-7721

LANCE  LARKIN™
LIFE MADE SIMPLE™

BREWEXPRESS.COM / (866) 268-5953

©2005 Lance-Larkin. All rights reserved. Brew Express is a registered trademark of Lance-Larkin LLC.

CIRCLE 133 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

TLFeBOOK



TEKA
ILLUMINATION

Enduring Materials
Advanced Technology
Classic Design

86 Gibson Road #3
Templeton, CA 93465
T (805) 434-3511
F (805) 434-3512
info@teka-illumination
www.teka-illumination.com

Circle No. 148

Lighting

Architectural illumination allows the interior landscapes of three hospitality projects to blossom

BRIEFS

Sponsored by the American Society of Interior Designers,

InformeDesign has released a new issue of the monthly newsletter *Implications* that **dives into daylighting**. Each issue of the publication explores one major subject in relation to design and human behavior. This edition, authored by Michael Kroelinger, AIA, professor and director of the School of Architecture at the University of Nevada, Las Vegas, **recommends strategies to designers and architects** for the use of daylighting and electric lighting in interior spaces to “improve the human experience” and energy efficiency. The newsletter also provides guidelines for using daylighting in varying climates, and lists related books and other studies. Go to www.informedesign.unlv.edu.

CONTENTS

310 Creative Uses

315 Duvet

*Andres Escobar & Associe;
XS Lighting & Sound*

320 Leadership Center at Cedarbrook

Candela

326 Royal Academy of Arts Restaurant

McInnes Usher McKnight Architects; DHA Designs

331 Lighting Products

Lighting helps to shape every type of architectural interior, but perhaps nowhere are expectations as high as in hospitality projects. For restaurants, nightclubs, bars, hotels, and conference centers, patrons have come to count on ambience as a major part of the social and aesthetic experience. And nowadays, it seems, lighting experts rank up there with star chefs or hot DJs as essential partners in plotting a successful venue.

This month, we present a trio of projects that follow different paths to successful lighting plans. Duvet, a New York City nightclub where diners literally crawl into bed for dinner, embraces the latest light-emitting diode (LED) technology to wrap surfaces in colored light. Interior designer Andres Escobar and Dougie Lazer, of XS Lighting & Sound, have collaborated on an adventurous space that catches the eye at every turn.

Daylighting is a key ingredient at Washington Mutual's new conference center at Cedarbrook in SeaTac, Washington. A key strategy employed by lighting designer Candela was to bring views and sunlight in, so conferencegoers on retreat wouldn't feel trapped in claustrophobic meeting rooms. The lobby of a similarly scaled chain hotel might have low-level illumination, but here the great room's ambient light levels are subtly elevated to support guests reading memos or conference reports.

In London, an uninviting and underperforming restaurant at the Royal Academy of Arts was refurbished and relit to raise the bar on style and service (right). McInnes Usher McKnight Architects worked with lighting consultant DHA Designs to wash the venue in colored light, in this case relying on cold-cathode fixtures. The original public access to the restaurant was somewhat hidden, so new signage and lighting raises its profile. Lighting the art was also a priority; celebrated murals by Fred Appleyard, Harold Speed, Gilbert Spencer, and Leonard Rosoman are illuminated for the first time, fulfilling the original intentions of the artists. And sculptures from the permanent collection by Royal Academicians, together with works from private collections, are spotlighted throughout the restaurant. The revamped eatery now introduces a true sense of the artistic wealth represented by the Royal Academy, while the colored light also delights. *William Weathersby, Jr.*



Creative Uses

OVI sheds light on the saga of its Scottish Parliament commission

The saga of constructing the new Scottish Parliament complex in Edinburgh is an intricate tale of political intrigue, massive cost and square-footage increases, and the untimely death of its principal design architect, Enric Miralles [RECORD, February 2005, page 98]. For lighting designers Jean Sundin and Enrique Peiniger, principals of New York City-based Office for Visual Interaction (OVI), the assignment's diversity of scope was a daunting trial of endurance. "The complex comprises some of the most dynamic three-dimensional spaces we have come across during our work as lighting consultants," Peiniger says. "Our comprehensive scope of work included every space of the 325,000-square-foot project (with the

exception of basement and mechanical areas) and covered interior and exterior lighting, daylighting, and illumination for television broadcasting."

Interior spaces within the government facility, designed by the joint-venture team of architects EMBT and RMJM, range from an intimate café under a vaulted ceiling to a vast Debating Chamber seating several hundred people. Lighting solutions combine new technologies—sources such as light-emitting diodes, cool-color temperature halogens, and CDM metal halides—with custom craftsmanship to harmonize with the dynamic public and meeting rooms. Creative solutions range from luminaires cast in concrete walls to suspended pendants that cascade among vaulted ceilings and skylights.



OVI took on the challenge of lighting dynamic spaces like the Grand Staircase.

"The daylighting solutions are fundamentally integrated," Peiniger says. The configuration of the leaf-shaped assembly buildings themselves, for example, serve as large louvers to shield the adjacent Debating Chamber from direct sun.

For office lighting inside the new assembly towers, the lighting team's goal was to minimize hardware costs. Standard surface-mounted, linear fluorescent fixtures were specified within cast-concrete profiles. The lamps were recessed into continuous slots sized wider than the luminaire profile

to create a "shadow gap" on each side. Service equipment such as speaker and fire-safety mechanisms were integrated within the lighting systems. The luminaires are flush with the ceiling and arranged in bands, pulled away from the perimeter edge to emphasize the shape and configuration of the rooms. To maintain the overall nighttime appearance of the buildings, a fixture with a reflector minimizes brightness and avoids bright stripes on the concrete ceilings.

Recessed compact fluorescent downlights also work with the radial

PHOTOGRAPHY: © ARCHITEKURPHOTO



PRUDENTIAL LTG.

Life, Liberty, and the Pursuit of Happiness.

When you're in pursuit of inspired lighting ideas, you don't want the basics. You want total creative freedom. The kind you'll find on every page of the award-winning catalog of Prudential Ltg. Five striking new product designs join our extensive line of affordable, high-performance fixtures. For more on what's happening at America's most innovative lighting manufacturer, visit prulite.com.

1774 E. 21st St., Los Angeles, CA 90058 T 213.746.0360



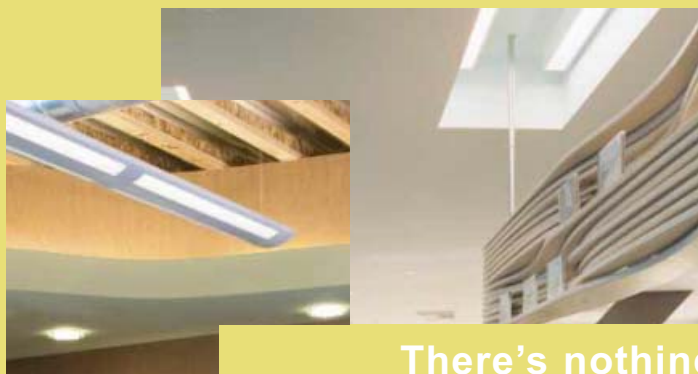
Lighting solutions were engineered as extensions of the architecture.

pattern of the enclosed offices within the towers. Compact fluorescents support energy efficiency and flexible configurations while responding to the sculptural nature of the building. The downlight design was modified for installation in concrete.

For broadcast-ready committee rooms, a lighting language of slots and pendants appears decorative, while supporting strictly technical lighting instruments in specific sectors. The location and length of the slots was determined once all aiming angles and light-level calculations

were satisfied. Pendants were grouped into clusters to minimize hanging points. The pendants are multistem, based on the architectural imagery of tree branches. They are design-engineered to allow lockable field adjustment in height and rotation of the luminaires.

"Lighting solutions were engineered as an extension of the expressive architecture," Peiniger says. "The illumination is absorbed into the architectural forms, not applied, to allow the lighting and building to age together over time." W.W.



There's nothing basic about it.



www.prulite.com

CIRCLE 134 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

TLCeBOOK

Light is everything.

Light affects people.

When the light is right, students learn more, employees are more productive, there are fewer health complaints and occupant comfort is increased.



IR hand-held remotes and receivers for personal control

Light is expensive.

Despite the fact that most lighting is energy-efficient, fluorescent lighting is still the primary source of energy consumption in most buildings.



Occupant sensors for energy management

Light is daylight and electric light.

Both sources should be in harmony to keep people comfortable and productive, address building energy usage, and promote green design.

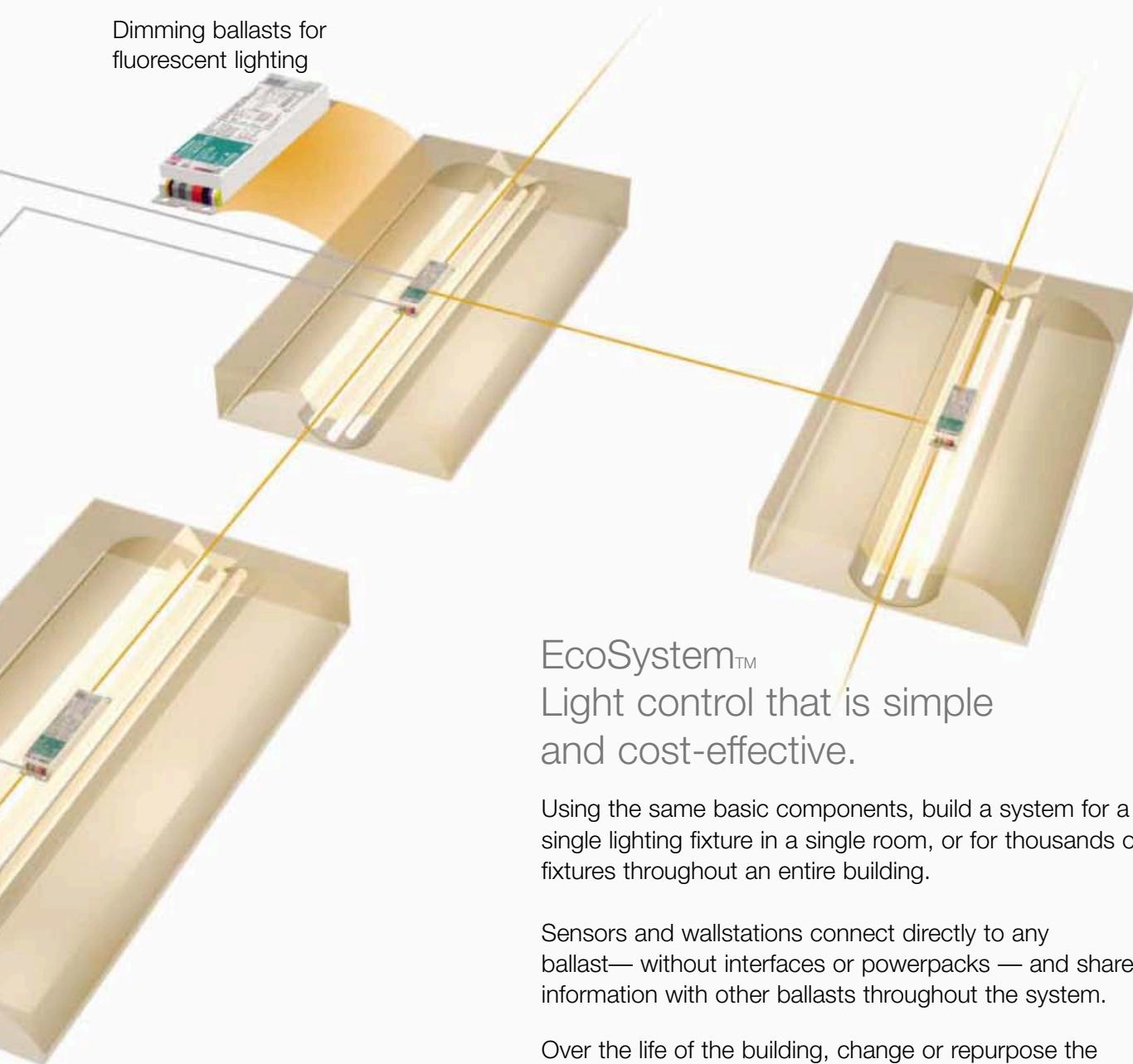


Photocells for daylight harvesting

Scalable from
1 to 32,000
fixtures

Introducing EcoSystem™

Dimming ballasts for
fluorescent lighting



EcoSystem™ Light control that is simple and cost-effective.

Using the same basic components, build a system for a single lighting fixture in a single room, or for thousands of fixtures throughout an entire building.

Sensors and wallstations connect directly to any ballast— without interfaces or powerpacks — and share information with other ballasts throughout the system.

Over the life of the building, change or repurpose the space easily without costly rewiring.

Experience EcoSystem for yourself.
Call Lutron at **1.877.258.8766 ext 235**, or visit
www.lutron.com/ecosystem.

See us at AIA Expo, **booths 1882 & 2473**.

 **LUTRON**
Lutron controls your light.™

TlFe800H

CIRCLE 135 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/



Lead Times

Budget Pricing

Fixture Selection

Application Guidelines

Designing *with* **LIGHT**

Are you designing with light?

Now there's an easier way. At www.designingwithlight.com you can explore architectural lighting solutions, get budgetary pricing, lead times, fixture schedules and application guidelines – all in a personalized project workspace.

While visiting, also request our new visual selection catalog for **Designing With Light**.

Visit us at the AIA 2005 National Convention and Expo, Booth #1657.

© 2005 Genlyte Group LLC. All rights reserved. www.lightolier.com

CIRCLE 136 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

LIGHTOLIER®



At the New York City nightclub **Duvet**, evocative lighting complements sybaritic interiors by Andres Escobar

By William Weathersby, Jr.

I'll admit I had some initial doubts about Duvet. The new Manhattan nightspot's motto, "Upscale dining while reclining," put me in mind of a post-*Sex in the City* scenario in which patrons in pajamas passed around hors d'oeuvres in bed, Hugh Hefner-style. In a club trend that seems to have migrated northward to New York City from Miami, Duvet joins another new Chelsea district venue, Bed, as the latest restaurant and lounge where guests take the term "laid-back" literally. Though standard dining tables ring Duvet's perimeter, most guests enjoy dinner and drinks while relaxing atop one of 30 oversize platform beds piled with pillows.

What might have become merely a one-note, over-the-top theme, however, has been orchestrated at Duvet with flair by interior designer Andres Escobar. A Colombian designer who emigrated to Montreal, he has introduced an imaginative viewpoint to this Manhattan nightlife landscape. With Venetian plaster walls, silver-leaf ceiling details, and art-glass fixtures, the 20,000-square-foot, two-level club is stylishly sybaritic. The standout element in the cocktail-hour mix is sophisticated, color-changing lighting that seems to infuse every surface.

Bringing Escobar's creative vision to life, lighting consultant Dougie Lazer of XS Lighting & Sound fitted, programmed, and installed

Constructed of cast-glass panels lit by color-changing LEDs, the main bar has the look of moonlight or fire viewed through ice.

more than 840 feet of Color Kinetics light-emitting diodes (LEDs). The linear runs of LEDs, which can be programmed to create more than 16 million colors, outline the glass bars, up- and downlight the platform beds, and wash Lycra ceiling scrims and nylon draperies.

"The lights are fully enclosed in several areas, such as the glass bars, so their long source life and low maintenance were critical factors," Lazer says. "The club uses a tremendous number of lights, and since the LED-based fixtures are low-power, they are not running on high-voltage or generating a lot of heat," he says. Typically, the new-generation LEDs will perform for 100,000 hours, or more than 10 years, without requiring replacement, he notes.

A key set piece at Duvet is the 90-seat walk-around main bar. Inspired by blocks of ice illuminated at a party sponsored by a liquor company, Escobar decided to translate the look to a more permanent architectural mode. Vertical bar fronts are cast-glass panels with a texture simulating the surface of blocks of ice. Color-changing LEDs set at floor level backlight the glass, "so it's like seeing red flames or blue moonlight through an ice flow," Escobar says. Additional LEDs set within a trough



LED lighting beneath the platform beds and bordering nylon draperies creates an ethereal landscape (above). Lycra ceiling panels throughout the club serve as scrims for additional light projections (below).



LED fixtures change color cues frequently, accompanied by sweeps of light cast by automated luminaires (left). Wine storage cases lit by LEDs border the lavatory (below).



light the smooth glass bar tops. Nearby, conical cast-acrylic bar tables also feature internal LEDs, whose color changes are synchronized with the main bar. Ceiling-recessed MR16s provide bartending task lighting.

Another eye-catching effect is an illuminated 15-foot jellyfish tank near the main bar. “When the LEDs change color, the 100 jellyfish themselves absorb light and appear to change color, while the water seems to remain clear,” Lazer says. (Note to Duvet patrons: On our recent evening visit, the jellyfish had been removed for tank maintenance, but management promised the mesmerizing effect would return soon.)

More than 75 LED units light the venue’s ceiling throughout, while automated luminaires throw sweeping beams of light across pathways near the bed platforms. Elsewhere in the space, approximately 60 LED MR lamps generate scattered bursts of color. Because they are designed to retrofit standard MR16 fixtures and sockets, the lamps were easily mounted for multiple applications: beneath glass paving in the entryway, inside dining tables, and adding unexpected flair to the unisex bathroom, where a communal lavatory looks onto a glass-enclosed wine cellar. “The lamps were a good choice for the latter location, where low

heat emission was vital to the storage of fine wines,” Lazer says.

Though presenting a broad menu of “progressive American cuisine” by top chef David Coleman, Duvet’s eating-in-bed ambience is admittedly an acquired taste. For the adventurous and agile clubgoer, however, Escobar and Lazer have created a comfort zone where one can enjoy the light show sparking the social fireworks. ■

Project: *Duvet, New York City*
Interior and (conceptual) lighting designer: *Andres Escobar & Associe—Andres Escobar, principal*
Lighting consultant: *XS Lighting & Sound—Dougie Lazer*
Architect: *RIP Construction Consultant*

Sources
LED lighting and controls: *Color Kinetics*
Custom lighting fittings: *XS Lighting & Sound*
Automated luminaires: *Elation; High End Systems*
Glass: *Think Glass by Mailhot*
Ceiling: *Lycra*

For more information on this project, go to Projects at www.architecturalrecord.com.



Circa
Form 10



Descending from above to change the world of site lighting, Circa is an inspired design, a perfect symmetry subtly sculpted to appeal at every viewing angle. Now, there is also the exciting option of electrifying color by way of an illuminated LED halo. Circa is the latest and surely most stunning series of high performance luminaires from Gardco. Integrated pole top luminaires that subtly eliminate mounting arms, an elegant post top and a building mounted sconce, all feature legendary Gardco glare-free, sharp cutoff illumination. Circa. Bold. Elegant. Inspiring. And entirely new.



GARDCO
LIGHTING

www.sitelighting.com

CIRCLE 137 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

TLLFe800H



Candela fills the Leadership Center at Cedarbrook with plentiful daylight and ambient illumination

By Alice Liao

At the Washington Mutual Leadership Center at Cedarbrook, residential-style interiors, waterside trails, and outdoor terraces overlooking a verdant campus invite employees on retreat to leave the chaotic business world behind. Designed by architects GGLO, the 107,00-square-foot conference center is 5 minutes away from SeaTac International Airport on an 18-acre site that was selected for its convenience to the insurance company's out-of-town staff. The property's 8 acres of wetlands, which were restored by the client and deeded back to the city of SeaTac, are the center's focal point. Two lodging buildings contain a total of 110 guest rooms, while the main structure houses a variety of meeting and entertaining spaces.

The interiors evoke the Pacific Northwest landscape with soothing color palettes and natural materials, including native fir and cedar. Wraparound windows offer sweeping views of the restored wetlands and bring plentiful daylight inside. Lighting consultant Candela built upon the generous daylight with an illumination plan that enhances the architecture, creates a comfortable ambience, and promotes sustainability.

"Even though the project was not submitted for LEED certification, the design team was encouraged to pursue everything possible to create a sustainable building," says project lighting designer Mary Claire Frazier. "From a lighting point of view, that meant achieving energy savings and avoiding light trespass in the wetlands."

Dimming systems and compact fluorescent sources anchor the interior lighting. Incandescent lamps are kept to a minimum and dimmed to extend their lamp life. In areas receiving abundant daylight, little or no supplemental illumination is required during the day, further reducing energy consumption. Even up against Washington State's strict energy guidelines, "we came in under code by 15 percent," Frazier notes.

In the guest check-in area of the main conference building, broad windows and clerestories wash the lobby and adjacent great room in sunlight. At night, custom pendants with linen diffusers work in tandem with ceiling-recessed MR16 accent lights to provide ambient illumination. Additional wedge-shaped uplights help define the 30-foot-high ceiling. According to Frazier, ensuring sufficient brightness in the vast space was a challenge because fixture locations were limited by the central staircase and the openness of the interior architecture. And unlike

Alice Liao is a freelance writer based in Teaneck, New Jersey. She specializes in lighting and interior design.

Project: Washington Mutual Leadership Center at Cedarbrook, SeaTac, Washington
Lighting designer: Candela—Mary Claire Frazier, IALD, project manager
Architect, landscape architect, interior designer: GGLO—Jim

Moore, Carol Schaefer, principals; James Bradley, project architect; Dwight Doty, Pamela Trevithick, Jennifer Thuma, Wendy Personett, Kirsten Malone, project team
Consulting landscape architect: Hewitt Architects



Exterior lighting for the center at Cedarbrook relies largely on custom pendants fitted with metal halides (above). Floor and

table lamps support reading in the great room (opposite). Pendants, uplights, and MR16s light the arrival zone (below).





Sconces and ceiling-mounted fixtures provide low-key ambient illumination in the main restaurant (above). A conference

room balances daylight with uplights set within a soffit, downlights, and accent lights grazing the wall opposite the windows (below).



typical hospitality lounges, where 5 to 10 foot candles is standard, corporate guests who might want to read memos or reports in the great room would require light levels approaching 15 to 20 foot candles. Table and floor lamps placed throughout the room support “serious reading” while reinforcing the venue’s residential ambience. Niches designed for smaller gatherings are intimately lit with soffit-mounted MR16 downlights.

While each building hosts an array of informal breakout areas, the major meeting facilities house two conference rooms (one of which can be subdivided into three smaller spaces), a prefunction space, and a

DAYLIGHTING IN CLASSROOMS AND GATHERING SPACES HELPS TO ALLEVIATE THE “TRAPPED IN A MEETING” FEELING.

120-seat auditorium. Accommodating everything from informal presentations to Webcasts and televised press conferences, the auditorium has a flexible lighting system fully integrated with the high-end audiovisual equipment. Tucked above a series of ceiling panels, pairs of fluorescent cove lights direct light toward the front and back of the room. Recessed in the sides of desks, light-emitting diode step lights assist with wayfinding when the auditorium is dark. Flexible task lights at each seat support note taking. Decorative sconces and compact fluorescent wall washers illuminate the perimeter of the auditorium for even light distribution, an important requirement for television cameras.



LITETOUCH
LIGHTING
CONTROL.



NOW
CHANGING
LIVES AT
A VENUE
NEAR YOU.



Convenience. Security. Efficiency. Beauty. Kitchens, bathrooms, great rooms, halls. Among the makers of residential lighting control systems... LiteTouch was the first with low-voltage control and dimming systems for use in homes. The first to introduce a micro-processor-based system and to offer astronomical time-based events, among other technological firsts. But the LiteTouch "firsts" that people really remember are these: LiteTouch is the first and only lighting control



manufacturer to provide support and upgrade possibilities to past customers and the first with a lifetime warranty. The more things change, the more LiteTouch's commitment to customer service remains the same.



Visit us on the web at www.LiteTouch.com, or call 888-LITETCH.



LiteTouch®
Brilliant Solutions in Lighting Automation

CIRCLE 138 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/



The furnishings and lighting in suites (above left) and guest rooms (below left) aim for a residential ambience that surpasses that of a boutique hotel. Multitask lighting includes compact fluorescent fixtures and zoned downlights.



Conference rooms feature a combination of cove lights and downlights, which are lamped with fluorescent sources operated on dimmers. In rooms where daylight is available from windows along one side, this bright light is balanced by asymmetric cove lights set above the windows and wall washers grazing the opposite wall. A zoned control system further regulates lighting for the comfort of meeting participants.

In the gallery that serves as a prefunction room, Frazier maintained the openness of the ceiling cavity by lighting it with two T5 lamps concealed in a perimeter cove. Pendants matching those in the lobby reappear here to punctuate the long, narrow space. The same pendants are also repeated in guest-room buildings, where they set the tone in lounges and suggest a visual continuity throughout the facility. The three buildings are linked by a covered passageway lit with custom metal pendants fitted with 70-watt metal-halide lamps.

In the main restaurant, wall sconces and ceiling-mounted fixtures

provide elegant yet low-key lighting, and MR16s accent artwork and buffets. In the library, where the ceiling is lower and the setting is more informal, a row of downlights adds punch above a pool table.

For Washington Mutual, this training facility has been popular with employees, while reflecting a corporate culture that aims to give back to the community: Plans by the city will allow local residents to enjoy the wetlands and the trails along the periphery of the property. ■

Sources

Compact fluorescents: *Portfolio*

Accent lights: *Edison Price*

Indirect coves: *LAM*

Sconces: *Boyd; Global Lighting; Eureka; Belfer; Zaneen*

Table and floor lamps: *Global*

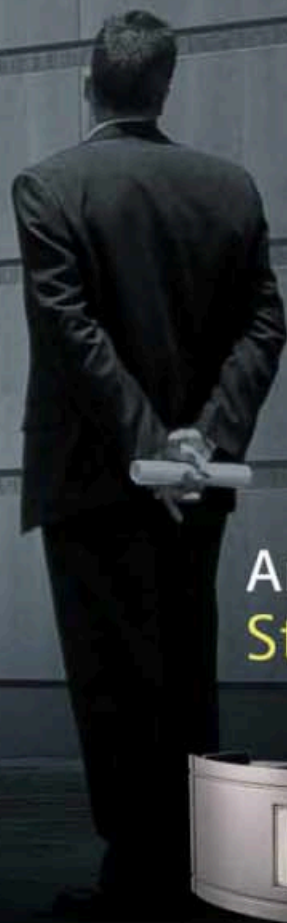
Lighting; Nessen

Exterior pendants: *Rebelle*

Task lites: *Littlite*

For more information on this project, go to Projects at www.architecturalrecord.com.

INVUE™



Art through Innovation
Style + Performance



THE CULTURE OF LIGHT

Lighting is an integral element of our culture. Whether for security, general illumination or aesthetic highlighting, how we create and use light to enhance the view of our world today is a direct reflection on the tapestry of our society.

Invue lighting systems embrace this association as a unifying theme for our product creations. Luminaires that blend into their environments while providing controlled illumination to enhance them.

COOPER Lighting

CIRCLE 139 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

www.cooperlighting.com



New disk pendants set into the Royal Academy restaurant's Classical ceiling coffers shield cold-cathode lamps that uplight the ceiling (this page and opposite). The lighting is programmed to change from a daytime setting of warm, white light to dramatic hues in the evening. The disks are made of a sound-absorbent material to improve the room's acoustics. A screen outside the window is lit by metal halides.



Colorful lighting graces Classical art and architecture at the Royal Academy of Arts Restaurant

By Leanne French

When museum officials at the Royal Academy of Arts (RA) decided its dining area had lost its luster, they launched a competition to revitalize the Classical space designed in 1885 by Richard Norman Shaw. Six firms competed to revamp the restaurant to honor the RA's high profile as one of London's premier art institutions, which is housed in the West End's historic Burlington House. The winning design team, McInnes Usher McKnight Architects (MUMA), was selected in part because of its imaginative use of lighting. New color-changing effects now cast a bold image for the dining area while respecting original architectural elements. The reworked lighting plan also helps to better celebrate art within the space.

MUMA principal Stuart McKnight explains that the restaurant, which had been updated only three times since Shaw's conception, had recently devolved into a gloomy, noisy venue suffering from drab lighting, dark wood finishes, and uninspired wall colors. Poor space planning and acoustics also plagued the rooms. And though situated on the ground floor, the space lacked adequate daylight because of the close proximity of neighboring buildings. "We wanted to use light and sound to transform the restaurant without disturbing its historic fabric," says McKnight.

The design team began by creating a blank canvas for the lighting with a neutral envelope of white walls and ceilings. A Grade 1 Listed Building (the highest listing in the U.K.) such as the RA "is highly cherished, and any alterations, even colors, are carefully controlled," explains McKnight. "Our approach was to emphasize the positive aspects of the existing space, paying particular attention to art incorporated within the building's fabric. By using simple furnishings and neutral colors, we created a calm environment in which existing wall murals could be accentuated."

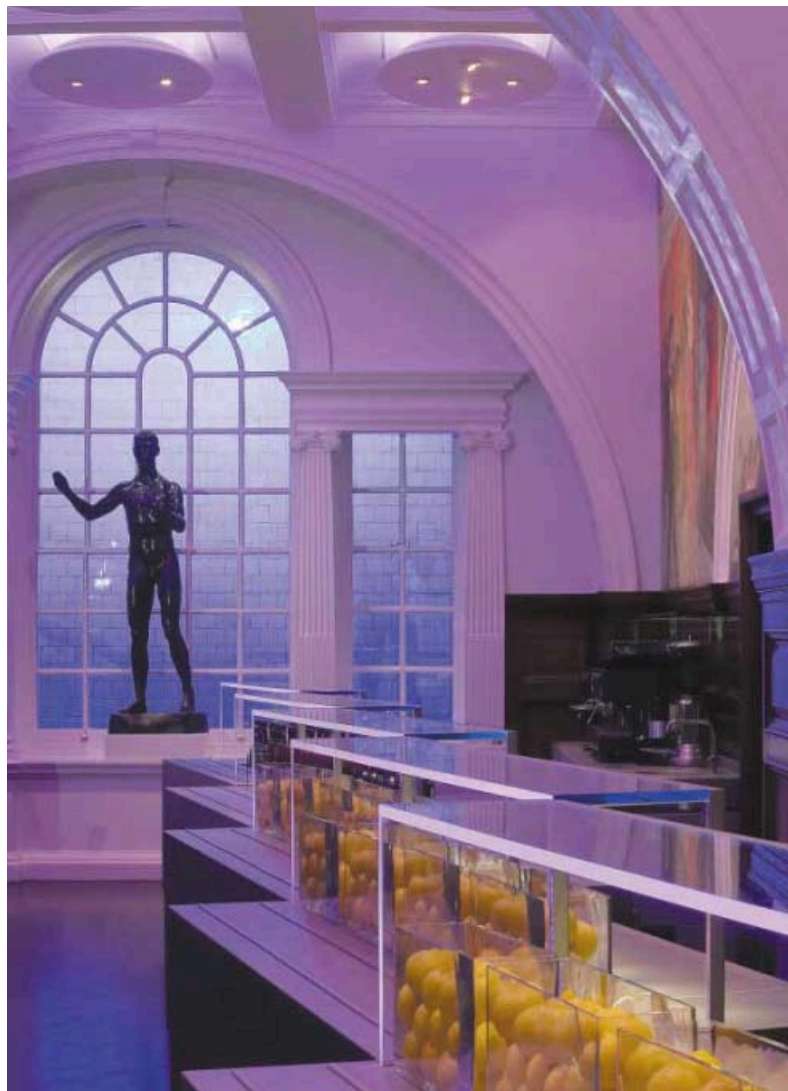
To execute its lighting concepts, MUMA teamed with the lighting firm DHA Designs, which had already established a relationship with the RA after consulting on various temporary exhibitions and on its retail shop. The restaurant's lighting scheme had to convey two moods, one for high-volume, self-service dining during the day and a more formal ambience for waiter-service dining in the evening. "During the day, the ambience is light and airy," McKnight says. "At night, this transitions to a more intimate setting through the introduction of rich colors."

Existing lighting fixtures, which included wall-mounted spheres and clusters of MR16 tungsten lamps hung from the ceiling, were replaced with acoustically absorbent elliptical disks designed by MUMA and hung from the rectangular panels of the coffered ceiling using lengths of white chain. "Above each suspended disk are three rows of 20-millimeter-diameter [.8 inch] cold-cathode tubes," says DHA designer

Peter Fordham. "Each row makes up an ellipse, consisting of two curved arcs, making it easy to replace tubes in the future."

The suspended elliptical disks uplift the coffered ceiling and also provide a location for recessed MR16 spotlights to subtly wrap dining tables in a "cocoon of light," McKnight says. The light fixtures also provide an acoustically absorbent surface distributed evenly throughout the space, while the adjustable MR16s illuminate artworks set throughout the rooms. Large murals placed in archways are front-lit by pairs of MR16 profile projectors, which are shuttered so each beam of light tightly focuses on the exact dimensions of a panel.

The neutral backdrop of the room now accentuates changing colored lighting scenes, which transform the dining experience and help to attract a younger crowd at night. Cool blue lighting harmonizes with live jazz on Friday nights, when curved leather banquettes can be rotated 90 degrees to create a separate area for predinner drinks. A minimum of



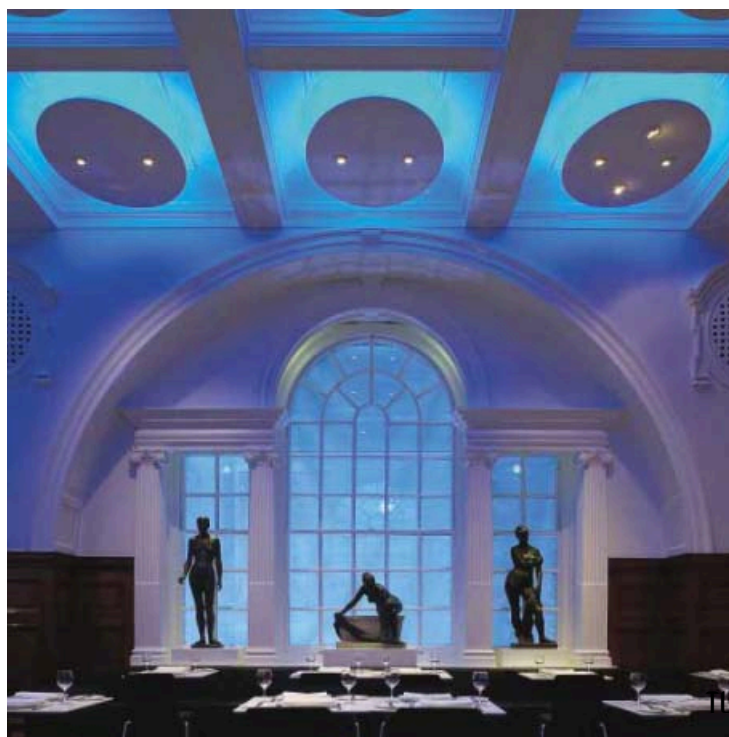


The RA's Classical sculpture is illuminated by adjustable LEDs that cast warm white

light (above). Daytime settings of white light yield to colorful night-time effects (below).

10 lighting scenes are programmed to change the ambience from shades of pink, red, and purple, then back to white for daytime. The serving units, which are lit from below by LED luminaires, can also be programmed to change colors to complement the overhead illumination.

Lighting even helps to conceal an unsightly external fire escape, which is masked by translucent screens washed with blue light from external metal-halide floodlights mounted at a low level. Metal-halide floodlights mounted above the exterior of the windows cast a pale-blue backdrop onto three white-glazed brick panels across from the customer service lane. McKnight says once additional funds become available, he hopes to project digital art onto these surfaces. It's a gesture that will further update the space, connecting historic art and architecture with contemporary innovation. ■



Project: Royal Academy of Arts Restaurant, London
Architect: McInnes Usher McKnight Architects (MUMA)—Stuart McKnight, principal
Lighting designer: DHA Designs—Peter Fordham, project designer

Downlights: Lucent
Mural spotlights: TSS Lighting
Cold cathode: Kemps Neon
Exterior floodlights: BDC
LEDs: AC/DC Lighting
Lighting controls: Dynalite

Sources
Wall washers: Zumtobel Staff

For more information on this project, go to Projects at www.architecturalrecord.com.

Inspired by Light



www.seegreatshapes.com

CIRCLE 140 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

TlFe800H

Arts & Crafts™

Designed with the energy efficiency and optical performance of a modern luminaire, the Arts & Crafts reflects the style and warmth of the Craftsman era.



Arts & Crafts with
Copper Shade*

Arts & Crafts with
Mica Shade

* IDA-Approved™
Dark-Sky Friendly
versions of this
luminaire are available.



ARCHITECTURAL
AREA
LIGHTING



www.aal.net

CIRCLE 141 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

FACEBOOK

Lighting Products

▼ Smallest metal-halide track spot

According to Amerlux, the company's new Topaz T4 is the smallest energy-efficient metal-halide track luminaire on the market. Utilizing the 20-watt T4 ceramic metal-halide lamp and the latest in miniature ballast technology, the Topaz T4 is engineered for small size, maximum performance, and longer life. Crafted with a die-cast aluminum lamp and ballast housing, the lamps are ideal for new construction as well as retrofit locations to replace halogen line and low-voltage incandescent fixtures. Amerlux Lighting Solutions, Fairfield, N.J. www.amerlux.com **CIRCLE 200**



► Brighter tile design

Light Tile, from Villeroy & Boch, features a LED lighting component integrated into individual wall and floor tiles. The dust- and waterproof Light Tile fixture is embedded into the tile, protected by a wear-resistant, coated-stainless-steel frame fitted flush to the surface. The 12-volt light is available in white, blue, and amber, and can be partnered with a selection of Villeroy & Boch tile styles. On square tiles, the 1½" lighting element is centered; on rectangular tiles, one or two lighting elements can be positioned along the central axis. Villeroy & Boch, Monroe Township, Pa. www.villeroy-boch.com **CIRCLE 202**



▲ Striation-free beams

Peerless Lighting makes its debut into interior architectural floodlighting with Lightfoil 2 and 3. Designed for contemporary, large-scale environments, Lightfoil's refined optical-system design produces an abundant, striation-free beam with a ceiling brightness gradient equal to or smoother than any other floodlighting product, according to the manufacturer. The curved wing is composed of Reynobond composite in a white, silver, or bronze finish. Peerless Lighting, Berkeley, Calif. www.peerless-lighting.com **CIRCLE 204**



◀ Light mobiles

London-based designer Miranda Watkins has created a new series of Modernist mobiles and custom lighting installations that demonstrate her knowledge of materials. The made-to-order lighting installations are constructed from Perspex and anodized-aluminum panels that cascade in clusters around a central light source, diffusing the light randomly while creating visual patterns. The aptly named Random light, shown at left, is the first in the series. Miranda Watkins, London. www.mirandawatkins.com

CIRCLE 201

▼ Ribbons of light

For the Colorado Convention Center expansion project, Lam Partners of Cambridge, Massachusetts, was retained to work with the Fentress Bradburn project team on the interior and exterior lighting. To illuminate the escalators and stairs, the team chose Onda, a suspended, linear indirect/direct light that provides softly diffused undulations of glare-free light. Ribbonlike extruded aluminum waves form curvilinear shades along Onda's 6', linkable module lengths. Luxo, Elmsford, N.Y. www.luxous.com **CIRCLE 203**



► Brainy bollard

The Annapolis Smart Bollard is the first bollard with integrated solar-powered lighting provided by advanced LED technology, according to Landscape Forms. The bollard was developed in response to customer requests for a lighted bollard designed for use in areas where wiring is neither feasible nor convenient, or where security demands lighting that is off the grid. Under typical conditions, it will run for up to 15 hours per day and requires 3 hours of daylight to recharge. With a fully charged battery, Smart Bollard can operate up to 150 hours without recharging. Landscape Forms, Kalamazoo, Mich. www.landscapeforms.com **CIRCLE 205**



Lighting Products



◀ Arts & Crafts light design

Architectural Area Lighting's new Arts & Crafts product line features a lightly diffused lens option for glare-free illumination. The Arts & Crafts line utilizes efficient lamp sources and an electronic ballast option for better color rendering and efficiency. Hood finishes include stainless steel, copper, opal acrylic, mica, and painted aluminum. Mounting configurations include post top as well as wall and pendant mount. Architectural Area Lighting, La Mirada, Calif. www.aal.net
CIRCLE 206

▼ Pure lighting effects

Ledalite has introduced PureFX, a recessed lighting system that offers controlled brightness and significant energy savings over traditional recess fixtures, according to the manufacturer. PureFX provides these features through the use of Ledalite's MesoOptics technology, a holographic material that produces diffuse patterns of pure white light that are highly controlled and directed. PureFX uses up to 36 percent less energy than standard fixtures and comes in a range of lamping options and housing sizes. Ledalite Architectural Products, Langley, British Columbia.
www.ledalite.com **CIRCLE 207**



For more information, circle item numbers on Reader Service Card or go to www.archrecord.com, under Products, then Reader Service.

tight curves, u-turns, sharp corners...

Flexsion track curves right down to a 12 inch radius. 120V circuit, no transformers, 6 times more capacity than 12V systems. Optional CRI metal halide spots cut energy usage. Stylish heads and accessories for today's track lighting needs.

Ardee
intelligent lighting...ardee-lighting.com

**CIRCLE 363 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/**

A JJI LIGHTING GROUP COMPANY



LAM

PERFORMANCE INDIRECT FROM CEILING, WALL AND COVE



Handsome, yes. LAM pendants illuminate space without supplemental lighting, eliminate bright spots and shadows. Light up to 300 square feet per fixture, up to 44,000 design lumens from select units. View all design and optics options at lamlighting.com

**CIRCLE 364 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/**

A JJI LIGHTING GROUP COMPANY

TLCFeBOOK



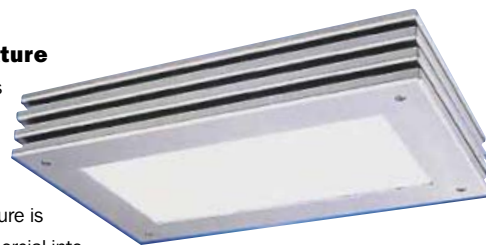
▲ Little brother of a classic

Louis Poulsen's recognizable PH Artichoke pendant is now available in a smaller size better suited for use in small spaces in commercial and residential projects. The 18.9"-diameter PH Artichoke is available in three finishes: brushed copper, brushed stainless steel, or white painted steel. The light consists of 72 leaves that eliminate glare by concealing the light source from all angles. The original lamp was designed exclusively for the Langelinie Pavilion in Copenhagen Harbor almost 50 years ago. Louis Poulsen Lighting, Fort Lauderdale. www.louispoulsen.com

CIRCLE 208

► Layered light fixture

Strato Rectangle provides evenly distributed, glare-free, ambient interior downlighting in a textural 3D fixture design. The fixture is ideal for a range of commercial inte-



riors, including upscale retail, professional offices, hospitality, and health-care facilities. Strato Rectangle is constructed from an all-aluminum body with a sand-blasted opal glass lens. It can be specified for ceiling or wall mounting and is ADA compliant. D'ac Lighting, Mamaroneck, New York. www.daclighting.com CIRCLE 209



▲ Airfoil form luminaire

Beta Lighting's Aviator Area Lighting series of architectural luminaires is available in a segmented Type II and Type IV optic and meets full IESNA cutoff classification. The housing is a rugged, one-piece die-cast aluminum casting with integrated mounting arm. Two housing sizes are offered: a 400-watt version measuring 18½" wide by 19.6" deep and a 175-watt version measuring 12" wide by 14" deep. In either size, the luminaires can be mounted in multiples of up to four on a single pole with no special mounting hardware. Beta Lighting, Sturtevant, Wis. www.beta-lighting.com CIRCLE 210

For more information, circle item numbers on Reader Service Card or go to www.archrecord.com, under Products, then Reader Service.

SERIOUS WORK DESERVES SERIOUS LIGHTING

What is the annual investment in an employee whose work area lies under a shelf or cabinet? It varies, of course. But it's thousands more than lighting with a \$26.95 bulb-in-a-box can justify!

Little Inch Xtra: greater payback on task lighting investment

4 lamping options: LED, fluorescent, xenon, halogen

optical systems for superior control of light over entire work surface

multi-level lighting (dual levels with LEDs)

minimal heat transfer

lamp life of 2,000... 10,000... 20,000
... or 50,000 hours

lifetime warranty: all components
except lamps and transformers...
10 year warranty on LEDs

CIRCLE 142 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

ALKCO
www.alkco.com

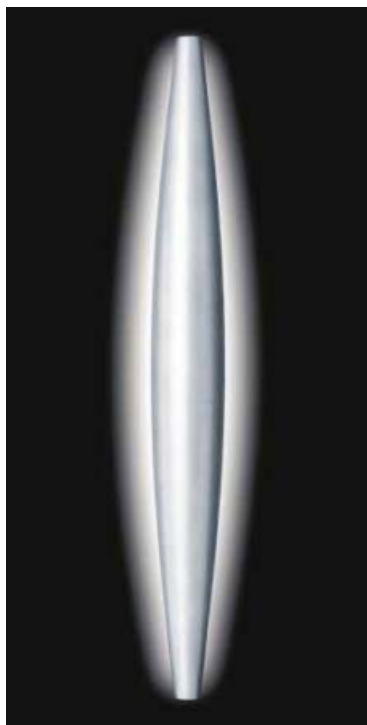
NEW Little Inch Xtra
TLFe800H

Optional
Antique
Bronze Finish

LIX task light
exclusive: Tiny 5w
LED "light wafers"
match output
of 30w tungstens



Lighting Products



◀ Large-scale sconce

As an extension of the Aliante lighting system, Ivalo Lighting has launched its new large-scale Aliante exterior sconce. The first of a series of introductions for this year and next, the sconce's 5'-long steel shell is created from .060"-thick steel using cutting-edge automotive stamping techniques. The elongated shell is available in lustrous silver or bronze powder coat as well as custom powder coat colors. The product is gasketed for wet rating, has UL approval, and comes in a choice of 120-volt and 277-volt dimming and nondimming options. Ivalo Lighting, Willow Grove, Pa. www.ivalolighting.com

CIRCLE 211



▶▶ New lighting avenue

Harnessing the power of a single T5/T5HO lamp, Avenue A utilizes a precision-formed micro-optic that delivers high levels of vertical illumination and washes walls with shadow-free light. The 2" aperture disappears into the ceiling, and the design allows for installation into either grid or drywall ceiling applications. Placed 24" to 30" from the wall, Avenue A is ideal for classrooms, conference rooms, corridors, featured walls, and for highlighting artwork. With less than a 3" aperture, the frosted-acrylic lens of the Avenue B version produces soft, glowing, direct illumination. Focal Point, Chicago. www.focalpointlights.com CIRCLE 212



For more information, circle item numbers on Reader Service Card or go to www.archrecord.com, under Products, then Reader Service.

HUBBARDTON FORGE

access

HAMPSTEAD
LIGHTING AND ACCESSORIES

LBL Lighting

A19

sea gull lighting



THOUSANDS OF LIGHTING PRODUCTS AVAILABLE ONLINE • PROJECT MANAGEMENT TOOLS • SPECIAL PRICING TO THE TRADE

Exclusive Offer!

Visit the address below for more information.
<http://www.lightinguniverse.com/ar>

Lighting
Universe.com

888.404.2744

info@lightinguniverse.com
<http://www.lightinguniverse.com/ar>

	
#1814	#3770
	
#3110	#2890

**ARCHITECTURAL
DETAILS**

10930 116th Ave. NE, Kirkland, WA 98033
(425) 822-1292 • FAX (425) 822-1263 • www.arch-details.com

Purchase online at <http://www.lightinguniverse.com>.  **Lighting
Universe**

CIRCLE 144 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

PRECISION SPOTS



For a broad range of applications where high-performance, fit and finish are critical, W.A.C. Lighting's new "Precision Spots" feature upscale, specification grade die cast aluminum track heads with a sophisticated, clean style. The luminaires feature precision horizontal aiming, vertical locking capabilities, concealed wiring and abrasion resistant powder coat finishes.

Tel.800.526.2588
wacighting.com


W.A.C. | LIGHTING
Experience the value. Value the experience.

CIRCLE 145 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/



UPLIGHT / DOWNLIGHT

Compact Fluorescent

Metal Halide

QL Induction

**DELRAY
LIGHTING
INCORPORATED**

www.delraylighting.com

CIRCLE 146 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

SuperLite™ Solution.

fire glass

Mark Thomson Associates, AIA
Fairmount Water Works
Interpretative Center,
Philadelphia
SuperLite II-XL / GPX 60-minute

The SuperLite™ / GPX™ Solution

- ▶ **SuperLite I™** – Specialty tempered
- ▶ **SuperLite I-XL™** – Radiant heat reducing specialty tempered
- ▶ **SuperLite II-XL™** – Transparent fire resistive glass walls
- ▶ **SuperLite C™** – Clear fire protective ceramics
- ▶ **SuperLite I-W™** – Safe wired glass
- ▶ **GPX™** – Aluminum fire resistive wall framing



USA MFG.

Your First Source for Fire Rated Glazing Solutions Since 1982

CIRCLE 300 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

www.safti.com 888.653.3333

SÄFTI*FIRST*
FIRE RATED GLAZING SOLUTIONS

Products

Contract Carpet

New technologies in **contract carpet** not only make way for products that are more sustainable, comfortable, and maintainable, but allow for more sophisticated patterns and color palettes. Specifiers can also **easily visualize the end result** through an array of user-friendly carpet design software. *Rita Catinella Orrell*

New carpet collaboration influenced by man-made and natural formations

Milliken Carpet and SOM Collaborative have launched Way, a 36" modular carpet collection with 3D designs that depart from traditional inspirations such as art and fashion toward man-made structures and geological formations.

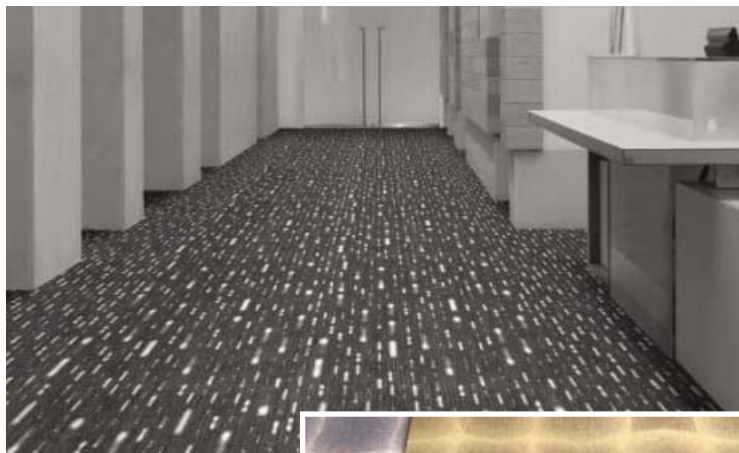
The collection utilized Millitron, a new high-definition printing technology from Milliken that allowed SOM and Milliken designers to create fine gradations of color and layers of visual texture that simulate dimension. Milliken also reformulated colors to achieve palettes in six high-contrast color families, including blue-blacks, browns, greens, silver-blues, reds, and charcoals.

The three design families in the line include Riverbed, which captures the illusion of light on

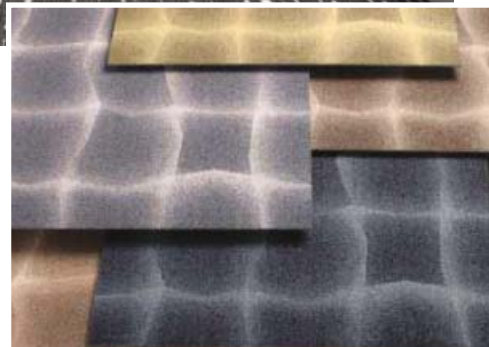
water; Urbanscape, influenced by cityscapes and aerial shots of highways and traffic; and Forcefield, inspired by images of bridges, airports, and city blocks. Each design family includes three patterns that increase in complexity and scale.

Using Pattern Builder software, developed by the collaborative, users can click and drag modular designs onto a grid and rotate them in any direction to compose their own graphic art.

According to Milliken, Way is 100 percent sustainable and can be renewed through the firm's Earth Square process or recycled by other means. Milliken Carpet, LaGrange, Ga. www.millikencarpet.com **CIRCLE 213**



Urbanscape (above) was inspired by aerial shots of traffic. **Geological formations such as glaciers and lakes influenced Riverbed (right).** Both patterns are available in three scales.



Coordinating tile and carpet palette

Crossville has designed its new Color Blox porcelain stone tile collection to coordinate with Bentley Prince Street's broadloom and carpet tile products. The smooth, unpolished surface of Color Blox is softened by shade variations from tile to tile, which imparts a handcrafted look while making it easier to match the tile with other finishes and furnishings. The collection features a palette of 20 hues.

"This collaboration will allow specifiers to easily create unique tile installations of multiple sizes and colors, or accent a basically solid tile floor with blocks of color—then tie it all together with a coordinating Bentley Prince Street carpet or carpet tile in a neighboring area," says Jim Dougherty, V.P. of marketing and



business development for Crossville.

The two companies' marketing initiatives will include advertising and online marketing campaigns to inspire specifiers to coordinate their products in commercial and residential projects. Crossville, Crossville, Tenn. www.crossville.com **CIRCLE 214**

Comprehensive backings binder

As an aide to specifiers, The Mohawk Group has created the *Architects Folder* devoted to carpet backings, with cut samples and definitions of each. The 11 systems in the folder include UltraSet Modular Systems, the company's first hard-back modular tile system. A thermo-stable structured backing of several composite materials, UltraSet is now being incorporated into all Mohawk Commercial and Bigelow Commercial carpet tiles. Another new addition is BioCel, a polyurethane backing that not only increases the carpet's life, but also combines renewable and recycled resources. The technology teams Celceram, a highly refined mineral endorsed by the Environmental Protection Agency,

with BioBalance, a rapidly renewable resource from soybean oil. The backing systems utilizing this technology contain an average of 50 to 55 percent postindustrial content, 7 to 15 percent consumer content, and 7 to 10 percent renewable resource. The Mohawk Group, Kennesaw, Ga. www.themohawkgroup.com **CIRCLE 215**



Products Contract Carpet

▼ High-tech carpet patterns

Thought Patterns is the result of a collaboration between Lees Carpets and Tricycle, a company that offers technology, products, and services to the manufacturers of contract interiors. Thought Patterns allows users to choose from 165 patterns and 20 colorways, manage personal project folders, view their choices placed in room settings, and order high-definition "Techno Images" to be delivered within 48 hours. Lees Carpets, Glasgow, Va.
www.thoughtpatterns.com **CIRCLE 216**



◀ Wool/alpaca blend

Woolshire Carpet Mills is the first U.S. manufacturer to introduce a carpet made from a blend of 80 percent New Zealand wool and 20 percent Alpaca. This fiber, from the fleece of a member of the llama family, is found naturally in 22 distinct colors and can be blended to produce an array of natural shades. The eight colors in the line range from soft beige to gold—all made without the use of dyes. Woolshire Carpet Mills, Calhoun, Ga. www.woolshire.com **CIRCLE 217**

► Fiber front-runners

Solutia's 16th annual Doc Competition for contract interior design was held last December in New York City. The competition recognizes outstanding achievement in contract projects and products that feature Solutia Ultron nylon 6,6 fiber. The winners of the Product Design award include Bentley Prince Street for Moda Velvet (above); Constantine Commercial, for Precision Loc and Isobar; Fortune Contract for Loommate; and Invision Carpet Systems for Edge. Solutia, St. Louis. www.solutia.com **CIRCLE 218**



For more information, circle item numbers on Reader Service Card or go to www.archrecord.com, under Products, then Reader Service.



THE BUSINESS OF ARCHITECTURE: 2003 AIA FIRM SURVEY

→ Access the latest, most comprehensive information on today's architecture marketplace

The Business of Architecture is the most reliable source of information on the business practices of U.S. architects. Responses from architecture firms nationwide have been compiled to bring you the latest financial benchmarks and management strategies of AIA-member-owned firms.

Major topics include: financial performance, services and sectors, marketing spending, professional liability, technology investment, and international practice.

This report organizes findings by region and firm size and includes charts and tables for fast, easy access to the information you need to stay competitive.

→ To order your copy, go to aia.org and click on AIA Store or call 800-365-2724.

AIA members:
\$125/PDF, \$150/book
Retail: \$329

▼ Hand-knotted hemp area rugs

Sorouh Hemp Rugs are organic area rugs available in a natural hemp color as well as a range of other tones. Hand-knotted in a choice of cut pile, loop pile, and a cut/loop combination, the rugs are also available in hemp-wool blends. For both public and private spaces, the rugs come in sizes up to 30' x 50'. Sorouh dedicates 5 percent of the profit from its rugs to the education of Tibetan children under the direct auspices of the Dalai Lama. Sorouh Custom Rugs, Kensington, Md. www.sorouh.us



CIRCLE 219



◀ Neutral and nubby

A natural nubby texture resembling a knitted bouclé fabric defines Fabrique, a new offering from Karastan Contract. The highly tactile characteristics are achieved by use of air-twisted, skein-dyed Solutia Ultron yarn. Available in 13 neutral colors, Fabrique is a nondirectional pattern that does not feature the linear or geometric details typical of wovens. Karastan Contract, Kennesaw, Ga. www.karastancontract.com

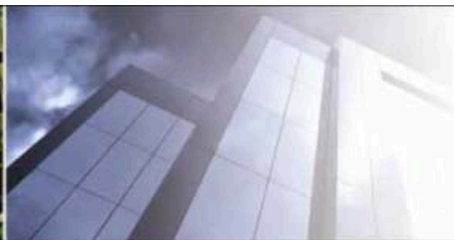
CIRCLE 220



◀ Recreating the comforts of home

BioTec is a new floor covering from Mannington Commercial that features a soft surface and a resilient base structure to enhance the homelike comfort and aesthetics of health-care facilities. The products are composed of Invista type 6,6 nylon treated on the face with ColorSafe bleach-resistant technology, and on both the face and back with MCare antimicrobial technology. Mannington Commercial, Calhoun, Ga. www.mannington.com CIRCLE 221

For more information, circle item numbers on Reader Service Card or go to www.archrecord.com, under Products, then Reader Service.



AXIUM

It's About Time

Ajera -- Accounting and Business Management Solution for Your A/E Firm

Ajera, designed for flexibility and ease of use, is the most powerful and affordable accounting and business management solution specifically for A/E firms. Ajera allows you to customize tasks, reports, and invoices to increase project profitability, maximize cash flow, and empower the success of your firm.

For more information
contact Axiom at 800.872.1540
or sales@axiumae.com

What empowers your firm's success?

Increasing Project Profitability

Ajera's "at-a-glance" Dashboard consolidates critical project information on your desktop in real time to keep projects on track and profitable.

Maximizing Cash Flow

Ajera's integrated environment unites time entry, consultant tracking, billing management, and easily customized invoicing to help you get bills out and cash in -- faster.

Better Business Management

Ajera provides the customized, industry specific reports and trending information to help you make the best decisions for your firm.

Ajera's complete accounting and business management solution.

Sign up for a FREE Internet Presentation at www.axiumae.com
and realize the benefits Ajera can provide your firm!



Energy Steel Products

Stocked in Stainless,
Galvanized, Aluminum,
Cold Rolled and HRPO,
in a full range of
thicknesses.

Perforated Metals



Toll Free: 1-888-377-4317 www.energysteelproducts.com

E-mail: houston@energysteelproducts.com

CIRCLE 302 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Product Briefs

▼ New modern lever from the firm of a late modern master

The new H351 door lever, part of Valli & Valli's Fusital collection, was designed by Philip Johnson/Alan Ritchie Architects, the firm of the late Philip Johnson. Crafted in brass and available in satin-chrome, chrome, and brass finishes, the lever features a clean, contemporary design, rising from a circular rosette into a solid handle and tip highlighted by 10 squared-off grooves. The collection also includes

window handles, pull handles and knobs, coat hooks, bathroom privacy sets, escutcheons, and a door key. Valli & Valli, New York City.
www.vallievalli.com **CIRCLE 222**



▲► Leather wall and floor tiles

Blackstock Leather has supplied leather floor and wall tiles to the design industry since 1991. Crafted from natural full-grain cowhide, the tiles can be used in bedrooms, libraries, dens, and hallways, as well as for commercial applications, including offices, conference centers, museums, showrooms, and theaters. The company has

developed a magnetic installation system for its tiles that allows the owner to reconfigure the pattern or take it to a new location. The tiles, which develop a patina over time, have a flexible magnetic backing and are installed onto a steel substrate that is supplied by Blackstock. The substrate is painted black on one side and comes in 23 3/4"-square sheets. Other benefits of the system include a fast and easy installation process and easier maintenance. Blackstock Leather, Ontario, Canada. www.blackstockleather.com **CIRCLE 224**



◀▼ Ceramic and glass tile

Mizu (left) is a new family of ceramic tiles from Walker Zanger inspired by classic Japanese stoneware.

Featuring deep crackle glazes that create the effect of pooling water, Mizu's color line ranges from golden browns to greens to bright blues.

Weave is Walker Zanger's latest collection of iridescent glass mosaics.

It is available in four patterns—Offset, Montage, Basketweave, and Straight—in muted tones of autumn gold, pearl, amber, sandstone, sea green, ocean blue, and metallic pewter, among others.

Walker Zanger, Sylmar, Calif.

www.walkerzanger.com **CIRCLE 223**



▼ Citterio-designed table/storage system

Ad One Office is a modular system of tables, storage components, and accessories designed by Antonio Citterio. Optional storage cabinets are placed at table edges while net-fabric screens slip between tables to visually separate workers and provide a sense of enclosure. Cables, fed from the floor through a flexible plastic chain and a work-surface outlet flap, allow for easy access to data, telephone, and power sources. The soft, light color of the table's hard elements may be accented with color provided by the soft mesh fabric in orange, green, yellow, gray, or white, specified on cabinet backs, as freestanding screens, or central table screens. Vitra, New York City. www.vitra.com **CIRCLE 225**



CHICAGO
ARCHITECTURE
FOUNDATION

Thanks to the
**American Institute
of Architects**
for recognizing...

- *Schoolyards to Skylines* architecture and built environment K-8 curriculum with the AIA 2005 Institute Honors for Collaborative Achievement.
- CAF President and CEO Lynn Osmond as a 2005 Honorary Member of the AIA.
- CitySpace Gallery with a Design Excellence Award by AIA Chicago.

EDUCATION

Schoolyards to Skylines
K-8 Architecture Curriculum
2005 Institute Honors for
Collaborative Achievement



"It's the tool many teachers, architects, and AIA chapters have been searching for to make architecture come alive for young people."

—2005 Institute Honors jury statement

EXHIBITIONS

Newhouse Architecture Competition
for Chicago Public High School Students
May 25–June 9, 2005

Five Architects
Midwest projects by Julie Snow,
Studio Gang, Zaha Hadid, and others
June 23–November 20, 2005

TOURS

Farnsworth House PLUS
En route to the Farnsworth, visit Mies masterpieces such as Crown Hall and 860–880 North Lake Shore Drive

Millennium Park
Tour Chicago's new front yard, including Frank Gehry's Pritzker Pavilion and Anish Kapoor's *Cloud Gate*

**And more than 80 other tours with
7800 departures 362 days a year**

CHICAGO **ARCHITECTURE** FOUNDATION
224 South Michigan Avenue
Chicago, IL 60604
312.922.3432

WWW.ARCHITECTURE.ORG

**CIRCLE 303 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/**

Product Briefs

► Fabric-inspired tile

Taffeta field tiles, from UltraGlas, incorporate a subtle cross-linear texture that echoes the look and feel of taffeta fabric and lets the tiles emit a radiant inner glow. The tiles come in 31 standard colors, and custom matched colors may be specified. The line is available in standard field sizes at a $\frac{5}{16}$ " thickness, but it may be specified in greater thicknesses and larger sizes for slab-type installations. The completely lead-free tiles coordinate with an extensive line of UltraGlasTile decos, liners, and corners.

UltraGlas, Chatsworth, Calif. www.ultraglas.com

CIRCLE 226



◀ Revving up a classic design

When a 1951 Emeco chair built for U.S. government hospitals was discovered for sale on eBay, the Hanover, Pennsylvania-based chair company decided to produce an updated edition of the chair for today's market.



Designed by Adrian van Hooydonk and BMW DesignworksUSA, the 1951 chair debuted at last month's Milan Furniture Fair. Joining award-winning chair designs by Philippe Starck and Frank Gehry, 1951 features a brushed-aluminum frame that supports a generous ABS plastic seat and back available in five standard colors. It stacks six-high and is offered with a matching bar and counter stool.

Emeco, Hanover, Pa. www.emeco.net

CIRCLE 227

▼ Stonelike lavatory

The Pure Stone lavatory from Villeroy & Boch features a sculpted porcelain basin with an organic form that gives the illusion it has been carved from stone. The vessel style is offered in two sizes: 21 $\frac{1}{2}$ " or 23 $\frac{1}{2}$ ". Three color options are



available, including White; the brilliant surface of Star White; or the matte surface of Edelweiss. The Star White features *activecare*, Villeroy & Boch's proprietary ceramic glaze that yields a bacteria-resistant, hygienic finish. Any of the three options can also benefit from the addition of *ceramicplus*, the dirt-repellent surface finish that eliminates the need for harsh or abrasive cleansers. Villeroy & Boch, Monroe Township, N.J. www.villeroy-boch.com

CIRCLE 228

For more information, circle item numbers on Reader Service Card or go to www.archrecord.com, under Products, then Reader Service.



Palazzo di Bocce
Orion, MI
Architect:
Gillett Associates
Farmington Hills, MI

Take it for granite.™

You've never seen Dryvit look like this before. Cut stone? Granite? No, it's TerraNeo®. Rediscover Dryvit. Create exterior designs you've only dreamed possible. Call 1-800-4DRYVIT to request a sample today.

**Call to learn more about other premium finishes
and how to earn AIA/CES credits, too!**



100% ACRYLIC POLYMERS

© Dryvit Systems, Inc., 2004

www.dryvit.com

CIRCLE 304 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/



An **RPM** Company

What do you want to design today?

World Class Leader in Translucent Skylights



Phone (800) 759-6985

www.cpidaylighting.com

CIRCLE 305 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Product Briefs

▼ Furniture fair previews

imm Cologne 2005, held last January in Cologne, Germany, showcased 1,329 suppliers from 48 countries presenting the latest in furniture design. A precursor to April's Milan Furniture Fair, several new products were previewed at the show, including the Boing soft washbasin (below) made of flexible polyurethane foam from Portuguese manufacturer Puntmobiles, and the Tag'liatelli chair (below right) from Belgian manufacturer Quinze & Milan, which resembles sticky

strands of brightly colored pasta wrapped around a bean bag.

imm Cologne, Cologne, Germany.

www.koelnmesse.com **CIRCLE 229**



◀ Fashion-forward flooring textures

Johnsonite has introduced five additional textures to the company's current six textures and standard 60-color rubber flooring line. The textures

include the delicate lines of Bamboo; the nondirectional look of Chopped Bamboo;

Pebbles, featuring granual stones that randomly align to create a subtle, workable

texture; Artistic Square, a variation of the traditional square pattern through the use of textured

tops and grout lines; and Cubis, featuring various heights of lineal squares. Johnsonite, Chagrin Falls,

Ohio. www.johnsonite.com **CIRCLE 230**



► Customizable and curved panels

Zero Systems, the Italian line of modular systems for retail, work, and exhibition environments, is now customizable with logos and graphics that can help users maximize the visual impact of their installations. Using a direct ink-jet printing technique, nearly any image in any combination of colors can be printed onto Zero System curved or straight aluminum panels. In addition, larger radius curved panels have been added to the collection, allowing for the creation of mobile meeting rooms. Zero U.S., Lincoln, R.I. www.zerous.com **CIRCLE 231**



For more information, circle item numbers on Reader Service Card or go to www.archrecord.com, under Products, then Reader Service.

EXTRAORDINARY.
ANY WAY YOU SLICE IT.



Natural rock cut thin. Exquisite brick cut thin.
Made beautiful by Robinson Brick Company.

800-477-9002 RobinsonBrick.com/Record

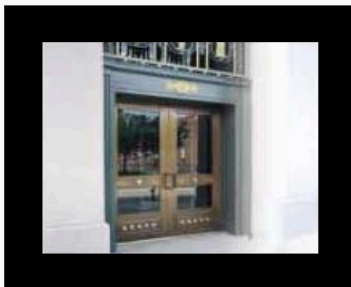
CIRCLE 306 ON READER SERVICE CARD OR GO
TO ARCHRECORD.COM/STAFF/DOA.COM/PRODUCTS/

ROBINSON
BRICK
COMPANY

SINCE 1880

Custom Entrances

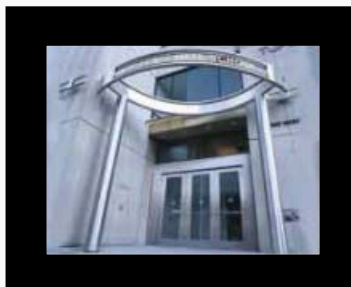
GOVERNMENT



Superior Courthouse, Hartford, Connecticut

Architect: The Mainfroid Associates

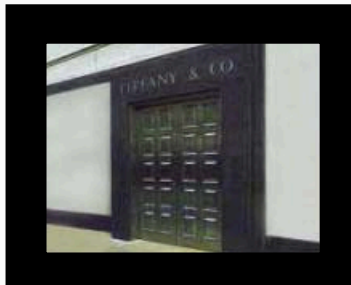
EDUCATIONAL



Tufts Dental School, Denver, Colorado

Architect: Perry, Dean & Associates

COMMERICAL



Tiffany's, Beverly Hills, California

Architect: Bernier & Bernier

RESTORATION



Temple Emanuel, New York, NY

Architect: Dan Bartelucci PC Architects

DAWSON DOORS

Since 1946

BALANCED • SWING • SLIDING • METAL CRAFT

AIA booth #3621

visit us at www.dawsondoors.com

716.664.3811

CIRCLE 307 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Product Briefs

▼ The kitchen as a canvas

German kitchen manufacturer Alno has introduced Picture Line, a patented, graphic process that allows a single cabinet or the entire kitchen to act as a canvas. The new technology prints directly onto the doors of kitchen components from more than 150 stock images and graphics, as well as from personal photos or images provided by the consumer. Due to the relatively low cost of the process, the doors can be easily changed with new images from time to time, giving the kitchen an updated look without the cost of new installations. Alno USA, Boston, Mass. www.alno.com **CIRCLE 232**



► Protective cover

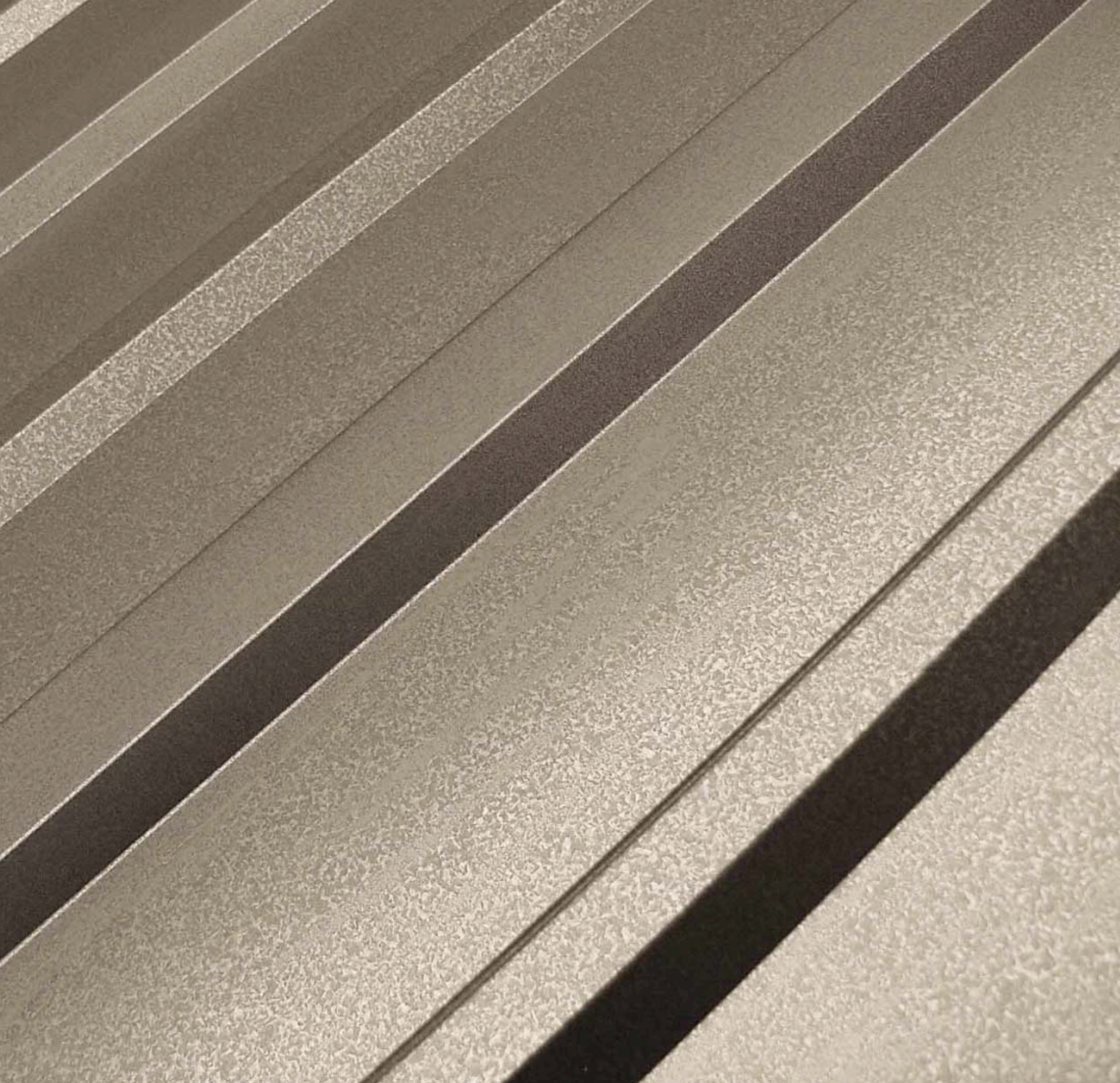
BlastGard material effectively mitigates the explosive effects of a bomb or other fire-related disasters by reducing the blast effect, extinguishing the fireball, and capturing the deadly fragmentation. The company's BlastWrap solution is being marketed to an array of industries, including aviation, construction, and the military. The FR911 First Responder solution allows police, fire, and military personnel to quickly and safely cover a bomb and clear civilians from the area, while protecting themselves and property. BlastGard, Clearwater, Fla. www.blastgard.net **CIRCLE 233**



◀ Improved fire-rated drywall

Temple-Inland has introduced a new, improved Type TG-C formula for its fire-rated gypsum wallboard. While offering the same finishing and performance properties as its full line of wallboard products, Temple-Inland's new premium TG-C wallboard is UL approved for almost twice as many applications. Manufactured in ½" and ⅝" thicknesses, a 4" width, and lengths from 8' to 14', the product also features traditional tapered edges. Temple-Inland, Tyler, Texas. www.templeinland.com **CIRCLE 234**

For more information, circle item numbers on Reader Service Card or go to www.archrecord.com, under Products, then Reader Service.



Vintage™ - Introducing a family of Steelscape TruZinc® Hot Dip Galvanized steel products for architectural applications which exhibit an as-manufactured aged appearance. Vintage™ I is intended for non-warranted applications where “natural aging” will occur after an initial period of time. Vintage™ II & III were developed for “higher-end” applications where a appearance warranty is required. Please contact a Steelscape representative for product information, availability and warranty details. 1.888.285.7717 www.steelscape.com



Great people behind great steel.

**CIRCLE 308 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/**

TlFe0004

Product Briefs

▼ Biometric access control

Marks USA introduces its IQue biometric fingerprint lockset. The combination of the stand-alone IQue lockset with a biometric fingerprint reader with RF (radio frequency) transmission offers security access that can't be lost, stolen, or



duplicated to verify a person's identity. Use of RF transmission also allows for an installation that will not compromise the fire rating of the door system. The IQue biometric fingerprint lockset allows up to 90 users and a 1,000 event audit trail, as well as easy installation and secure wireless transmission to the lock. Marks USA, Amityville, N.Y.

www.marksusa.com

CIRCLE 235



▲ Modern German glass partitions

Sprinz manufactures and markets glass products for interior design and architecture, including swimming pool and wellness applications. The company's ceramic-screen-printing process (above left) is offered as a rugged and versatile alternative to sandblasted or etched glass. Together with designer Matteo Thun, Sprinz has created a partition wall system (right) for wellness and sanitary applications. The "Basic" model is produced from .39"-thick toughened safety glass, while the "Modern" model has high-gloss chrome mirror glass on the inside and matte chrome with a screen-printed finish on the outside. Both models can be used to produce partition walls, individual cubicles, and rows of cubicles. Sprinz, Ravensburg, Germany. www.glas-sprinz.de **CIRCLE 236**



For more information, circle item numbers on Reader Service Card or go to www.archrecord.com, under Products, then Reader Service.

HIGH SECURITY BIKE STORAGE



Custom perforated patterns on the doors and sides provide an attractive design element that enhances security. Seeing what's inside the locker ensures that they are used for bike storage only.

Huntco offers a variety of all-steel bike lockers that now feature *on-demand, keyless bike storage*, utilizing cell phone technology, that assures complete security. Optional bike lock, padlock or key locking systems are available.

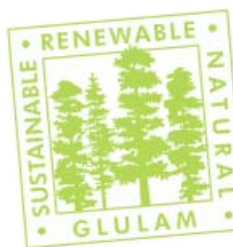
www.huntco.com
1.800.547.5909

Huntco
SITE FURNISHINGS

TRADITION. INNOVATION. SECURITY.

CIRCLE 309 ON READER SERVICE CARD OR GO
TO ARCHRECORD.COM/PRODUCTS/

Passport to *Inspiration*



Hirofumi Sugimoto, a noted Japanese architect, has been using engineered wood products in his innovative designs for more than ten years. The Okutsu Hot Springs complex combines Sugimoto's vision with the versatility of glued laminated timbers in a variety of buildings in the resort. In Japan and in the U.S., glulam delivers architectural design that soars, strength and dependable performance, and finished structures infused with the warm character of wood.

Find your inspiration at:

WWW.glulambeams.org

Product Literature



Shower-panel brochure

A new, 10-page, full-color brochure showcases the Pharo Showerpanel Lift from Hansgrohe. Inside are numerous color photographs of the shower panel as well as line drawings and charts that feature descriptions and dimensional data. Hansgrohe, Alpharetta, Ga. www.hansgrohe-usa.com **CIRCLE 237**

Lighting inventions

Nova Lighting has introduced a 36-page catalog featuring color images and information on many of its new designs, including a wide variety of Arc Lamps, a lighting category Nova invented years ago for the American market. Nova Lighting, Huntington Park, Calif. www.novalamps.com **CIRCLE 238**

Garden design catalog

Arcadian Garden Features' expanded 40-page catalog is the most comprehensive one ever produced by the company. It details the entire range of Arcadian garden design products, from pebble pools and self-contained fountains to garden furniture, ornaments, and paving. Haddonstone, Bellmawr, N.J. www.arcadian.biz **CIRCLE 239**

NEW SITES FOR CYBERSURFING

Site for Spanish stone architectural elements, tiles, and slabs is available in Spanish, French, English, and German.



www.arriaga-marinoles.com

At Designtex's new site, visitors can learn about upholstery, wall coverings, drapery, panel fabrics, and other new offerings from the company. www.dtex.com

Online tool allows radiant-floor customers to draw/submit plans electronically for a price quote. www.warmlyyours.com

Restoration mortar brochure

Cathedral Stone Products has produced a new eight-page color brochure detailing information on the entire line of Jahn Restoration Mortars. Each Jahn mortar formulation has been engineered for use with specific substrates such as sandstone, limestone, terra-cotta, stucco, concrete, marble, and brick. Cathedral Stone Products, Hanover, Md. www.cathedralstone.com **CIRCLE 240**

For more information, circle item numbers on Reader Service Card or go to www.archrecord.com, under Products, then Reader Service.

What are Architects earning?

What are firms paying?

FIND THE ANSWERS in the new **AIA Compensation Report**—

the most comprehensive source of compensation information in the architecture industry. No other survey covers such a wide range of positions and geographic scope. You'll find up-to-date information on compensation levels and benefits for over 35 positions inside architecture firms.

The survey is available in print or electronic PDF. In PDF, you can also buy any of the regional tables, which include states and metro data for each region.

AVAILABLE SUMMER 2005

2005 AIA Compensation Report: A Survey of U.S. Architecture Firms

For updated information, please visit
www.aia.org/economics.



Product Literature



For more information, circle item numbers on Reader Service Card or go to www.archrecord.com, under Products, then Reader Service.

Molded-millwork catalog

Fypon has introduced a new product catalog featuring 750 new pieces, including 76 louvers, 52 window crossheads, 46 window-crosshead arches, 105 decorative brackets, 66 dentil blocks, 39 ceiling medallions, and 154 profiles of molding options, bringing the full line to more than 6,000 items. Fypon, Archbold, Ohio. www.fypon.com **CIRCLE 241**

Cabinetry design brochure

The new *Marqué II* style guide from Quality Custom Cabinetry presents 15 pages of custom cabinetry design options. More than 60 photos depict cabinetry styles, wood species, and painted and stained finishes. Vignette photos include kitchen, bath, and custom living areas. Also shown are some of the available storage solutions, intricate detail options, and architectural elements. Quality Custom Cabinetry, New Holland, Pa. www.qcc.com **CIRCLE 242**

Conservation education

Sloan Valve explains how educational facilities can conserve water and reduce operating costs in the new brochure

How Green is Your School's Plumbing?

The brochure highlights Sloan's full line of water conservation plumbing systems, including its sensor faucets, Flushometers, and Waterfree Urinals, which are suitable for all types of school facilities. Sloan Valve, Franklin Park, Ill. www.sloanvalve.com **CIRCLE 243**

Leather sample card

Harden Contract now offers a new *Leather Collection Sample Card*. The four-page, portfolio-style brochure presents generous 1½"-square swatches of Harden's own collection of standard and premium American leather for seating upholstery and top inserts on desks, tables, credenzas, and other case goods. Harden Contract, McConnellsville, New York. www.hardencontract.com **CIRCLE 244**

Awning fabric folder

The new *Color Folder* from Glen Raven Custom Fabrics showcases the full line of Sunbrella-brand awning fabrics, including several new additions this season. Glen Raven Custom Fabrics, Glen Raven, N.C. www.sunbrella.com **CIRCLE 245**



Download Your Codes Online!

Enjoy the benefits of ICC's new Internet-based library

- View selected state codes at no charge
- View, search and print International Codes® and selected state codes available by subscription for single and multi-users
- Download electronic versions of International Codes® and selected state codes to your desktop or laptop computer for a one-time fee

eCodes allows you worldwide access to your subscription via the Internet.

eCodes is updated at each printing of the code.

eCodes is available for PC users as well as Mac and Linux users.

Visit www.ecodes.biz today for more information.



People Helping People
Build a Safer World™

Product Literature



Sheet and film for signage

Sheffield Plastics has released an eight-page color brochure describing its full line of polycarbonate sheet and film products for tough outdoor sign applications. Sheffield's Makrolon signage products are produced exclusively with Makrolon polycarbonate resin from Bayer Corporation. A detailed chart delineates the physical, optical, mechanical, thermal, and flammability properties of Makrolon, and another chart details available sizes, colors, and surface textures. Sheffield Plastics, Sheffield, Mass. www.sheffieldplastics.com **CIRCLE 246**

Specialty flooring catalog

Johnsonite has released an updated version of the *Johnsonite Story*, a full catalog of the company's product offerings. The catalog helps define high-performance environments, explains flooring's ability to play a role in these environments, and details the benefits of each Johnsonite product solution. The Johnsonite specialty flooring line ranges from rubber flooring and stairwell solutions to wall base collections and finishing accessories. Johnsonite, Chagrin Falls, Ohio. www.johnsonite.com **CIRCLE 248**

Lighting magazine

Prescolite has announced the newest issue of *illum*, the company's magazine of architectural lighting ideas and applications. Prescolite premiered the magazine in 2001 as a full-scale periodical for the commercial lighting specifications industry. The 32-page journal includes pullout inserts for placement in Prescolite's spec binders. Hubbell Lighting, Spartanburg, S.C. www.prescolite.com **CIRCLE 247**

Architectural grilles/screens

The Aiolite Company offers a four-page brochure detailing its line of architectural grilles and screens. Aiolite custom designs its grilles and screens to function as architectural accents or entire facades. The new brochure features a grille specification guide and detailed drawings of several grille designs. Aiolite, Marietta, Ohio. www.aiolite.com **CIRCLE 249**

For more information, circle item numbers on Reader Service Card or go to www.archrecord.com, under Products, then Reader Service.

Maximum VALUE through Superior SERVICE



EVERY DOCK NEEDS A LIFT

An Advance dock lift is the only equipment that can service all trucks. Full line of dock lifts including:

- Portable
- Top Of Ground
- Pit Mounted



INCREASE PRODUCTIVITY



Call
1-800-THE-DOCK
or visit our web site
www.advancelifts.com for a
FREE CATALOG.

DOCK LIFTS



ADVANCE LIFTS

CIRCLE 312 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/



the ultimate cable system

Arakawa




Arakawa Hanging Systems supplies quick-release cable grippers for hanging nearly anything, from fabric to metal.

With the Arakawa Hanging System, your displays are secure and locked in place, but quickly adjustable with the touch of a button. The mechanical grip fastens to the cable, eliminating set screws and damaged cable.

Visit us today. www.arakawagrip.com



Arakawa Hanging Systems 1020 SE Harrison Street Portland, OR 97214
ph: 503.236.0440 fax: 503.236.0427 toll free: 888.ARAKAWA

CIRCLE 313 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

TLFeBOOK

2005 Architectural Precast Association

EXCELLENCE

AWARDS FOR DESIGN & MANUFACTURING

The 2005 Architectural Precast Association Awards for Design and Manufacturing Excellence is a national award program that is sponsored by the Architectural Precast Association. Each year a jury of your peers select the best designs utilizing architectural precast concrete. Finished

structures must display a highly animated use of precast which gives life and vitality to the building surface. Other considerations include a good control of medium, consistent color and textural control, and a design that exploits the potential of an architectural precast system.



U.S. Patent & Trade
Office Headquarters
Alexandria, VA

DESIGN

SOM
Washington, D.C.

MANUFACTURING

Arban & Carosi, Inc.
Woodbridge, VA



400 Massachusetts Ave. N.W.
Washington, D.C.

DESIGN

Esocoff and Associates
Washington, D.C.

MANUFACTURING

Arban Precast Stone, Ltd.
Dumfries, VA



Residences at Amory Park
Boston, Massachusetts

DESIGN

The Architectural Team, Inc.
Chelsea, MA

MANUFACTURING

Northern Design Precast Inc.
Loudon, N. H.



University Chapel
Fordham University
Bronx, New York

DESIGN

Aldo Divitto
Bronx, New York

MANUFACTURING

THR Cast Stone & GFRC
Brooklyn, New York

2005 JURY MEMBERS

Jury Chairman

David Mohny, AIA

Dean of the College of Design at the University of Kentucky, Lexington KY

Juror

Alan B. Sullivan, AIA

*Principle-In-Charge of Healthcare—CMW, Inc.
Lexington, KY*

Juror

Martha R. Tarrant, AIA

*President of Ross-Tarrant Architects, Inc.
Lexington, Ky*



6710 Winkler Road, Suite 8 • Fort Myers, FL 33919 • Tel: (239) 454-6989 • Fax: (239) 454-6787

E-mail: info@archprecast.org • Website: www.archprecast.org

Design choices are infinite with Architectural Precast Concrete. When you demand quality & beauty, demand Architectural Precast Concrete.

CIRCLE 314 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

ILLUSTRATION

freedom of **DESIGN**



Frustrated by losing usable space
to create enclosed elevator lobbies?

Regain your freedom to design the way you want to
with a solution developed by an architect –
the Smoke Guard® System.

Provide superior protection for building occupants
by limiting vertical smoke migration via the
elevator shafts and satisfy building code requirements
without sacrificing the aesthetic goals of your design.

Now you have even more freedom –
freedom to choose from three Smoke Guard® System
models to satisfy your need to balance economics
and design.

AIA Expo
booth
#2479

For more information visit:
www.smokeguard.com
or call 800.574.0330

CIRCLE 315 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

SMOKE GUARD®
systems



Dates & Events

New & Upcoming Exhibitions

Ant Farm 1968–1978

Karlsruhe, Germany

May 1–July 15, 2005

This exhibition tracks the seminal underground architects through drawings, posters, mail art, and video. Organized by the Berkeley Art Museum, the show is at Zentrum fur Kunst und Mediaentechnologie and will move to the Architecture Gallery at Yale University, New Haven, September 15–December 12, 2005. Call 49 0 721/8100-1007 or visit www.zkm.de.

Chicago Bridge

Los Angeles

May 6–June 10, 2005

This exhibition focuses on the schematic design, elements of the design development, and construction of Frank O. Gehry's BP pedestrian bridge in Chicago's Millennium Park. At UCLA Department of Architecture and Urban Design Perloff Gallery. Call 310/267-4704 or visit www.aud.ucla.edu.

1945: Creativity in Crisis

Chicago

May 7, 2005–May 26, 2006

Consisting of approximately 100 architectural drawings, models, artifacts, furnishings, and photographs, this exhibition focuses on American architecture and design of the 1940s. In Gallery 227 at the Art Institute of Chicago. Call 312/443-3600 or visit www.artic.edu/aic.

Scents of Purpose: Artists Interpret the Spice Box

San Francisco

May 8–September 5, 2005

More than 80 leading local and national artists and architects were invited to creatively explore the meaning and form of the traditional Jewish spice box (or *besamin*), used in the Sabbath prayer service. Participants in this art exhibition include renowned architects Daniel Libeskind, Chong Partners Architecture in association with Berkeley Mills & Earth Resources, Robert A.M. Stern, C. David Robinson, and Brad Cloepfil of Allied Works Architecture. At the Contemporary Jewish Museum. Call 415/334-8800 or visit www.cjm.org.

The Initiated Eye: Secrets, Symbols, Freemasonry, and the Architecture of Washington, D.C.

Washington, D.C.

May 18–December 31, 2005

An original exhibition focusing specifically on the interesting and significant contributions of Freemasons to the design and architecture of Washington, D.C. At the Octagon. Call 202/638-3221 or visit www.theoctagon.org.

Annual Art and Structure Benefit Exhibition

New York City

May 19, 2005

This benefit challenges teams of artists and designers to create a structural work of art that responds to a charity-related theme. The theme, "Making Time," investigates the experience of a life not governed by the clock. All proceeds will benefit the Common Ground Community, a nonprofit housing and development organization committed to stamping out homelessness. For further information and tickets, call 212/471-0885.

2005 Wright Plus Housewalk

Oak Park, Ill.

May 21, 2005

Visitors will explore one of the richest periods of American architecture by touring homes designed by Frank Lloyd Wright and renowned contemporaries. Located 15 minutes from downtown Chicago, Oak Park was home to Frank Lloyd Wright for 20 years and offers the world's largest concentration of Wright-designed structures. For more information, call 708/848-3440 or visit www.wrightplus.org.

Vanishing Point

Columbus, Ohio

May 21–August 14, 2005

This exhibition features photographs, paintings, drawings, video, and mixed-media installations that explore the aesthetics of contemporary urban "nonspaces." These ubiquitous public realms—



convenience stores, hotel lobbies, shopping malls, airport terminals, parking lots—are often considered anonymous, banal, or otherwise socially and culturally insignificant.

Why put up with rust later when you can have an Inclinator?



Inclinator's Spectralift® is the industry's only fiberglass wheelchair lift. With stainless steel mechanisms and gel coating finishes, it simply will not rust. And, the sleek design comes in 28 standard colors. Call us today to learn more.

INCLINATOR
COMPANY OF AMERICA

www.inclinator.com
800-343-9007 • DEPT. 66

RESIDENTIAL ELEVATORS
WHEELCHAIR LIFTS • DUMBWAITERS

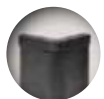
CIRCLE 316 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Stunning Strength



**Pawling
Corporation
Architectural
Products
Division**

(800) 431-3456



Pro-Tek® impact protection stands up to wear, tear and stains. Specify wall guards, corner guards, handrails and vinyl sheet that protect and beautify. From the interior to the exterior, the basement to the lobby to the parking garage, we've got you covered.

www.pawling.com



CIRCLE 317 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Dates & Events

Rather than objectively documenting these spaces, the artists in *Vanishing Point* interpret them by focusing on their experiential and atmospheric qualities. At the Belmont Building, Wexner Center for the Arts. Call 614/292-0330 or visit www.wexarts.org.

2nd International Architecture Biennale Rotterdam: The Flood Rotterdam, the Netherlands

May 26–June 26, 2005

With the exhibitions *The Water City*, *Mare Nostrum*, *Polders*, *Three Bays*, and *Flow*, the Biennale will spotlight the relation between water and architecture in the Netherlands and around the world. In addition, the Biennale will feature numerous conferences, lectures, excursions, a film program, and a city program. At Las Palmas and the Netherlands Architecture Institute. For further information, visit www.biennalerotterdam.nl.

Policy and Design for Housing Beyond the Minimum: Lessons of the Urban Development Corporation 1968–1975 New York City

June 10–September 10, 2005

In response to the lack of housing units being built for families of limited income, a concerned group of architects, planners, policy makers, public advocates, and environmental psychologists will take a look at the situation by presenting an evaluation of the housing produced by the New York State Urban Development Corporation. The exhibition will use plans and photographs of a sample of projects around New York State that demonstrate housing of differing types: urban and suburban; mixed income; high-rise and low-rise; varying densities; with various building materials and technologies. At the Center for Architecture. Visit www.udchousing.org.

Jewish Washington: Scrapbook of an American Community Washington, D.C.

June 24, 2005–January 8, 2006

Scrapbooks, historical photographs, business ephemera, architectural artifacts, and other items convey the story of the local Jewish community as it grew along 7th Street into neighborhoods across the city. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org.

2005 Serpentine Gallery Pavilion Program London

Summer 2005

Portuguese Pritzker Prize-winning architect Alvaro Siza and his long-time collaborator, the distinguished architect Eduardo Souto de Mouro, will design the next Serpentine Gallery Pavilion. Since the commission was launched in 2000, it has resulted in four landmark temporary structures. At the Serpentine Gallery. Call 020/7402-6075 or visit www.serpentinegallery.org.

Ongoing Exhibitions

Mexico City Dialogues: New Architectural Practices New York City

Through May 7, 2005

The first international exhibition organized by the Center for Architecture, *Mexico City Dialogues* is part of *mexicoNOW*, a citywide festival celebrating contemporary Mexican culture. Jose Castillo, a Mexico City-based architect, educator, and associate editor of *Arquine* magazine, serves as guest curator of the exhibition. The exhibition examines the changing fabric of Mexico City through 17 selected projects by young Mexican architects. At the Center for Architecture. Call 212/683-0023 or visit www.aiany.org.

un/spoken (SPACES) Charleston, S.C.

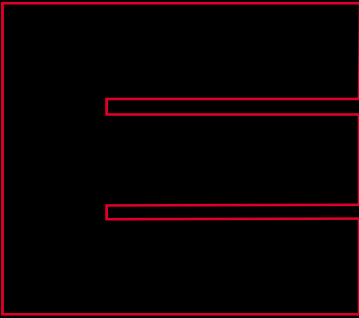
Through May 8, 2005

Eighteenth- and 19th-century paintings of Charleston not only reinforce the city's significance as a prominent colonial and antebellum metropolis, as well as tourist destination of today, but also present subtle and often not-so-subtle distinctions between class, wealth, and racial status. *un/spoken (SPACES): Inside and Outside the Boundaries of Class, Race, and Space* investigates the complex relationships between these variables. Ray Huff and Mario Gooden of Huff Gooden Architects in Charleston approach the Main Gallery of the Gibbes as a multidimensional landscape in which selected works from the permanent collection are recontextualized through a manipulation of spatial boundaries and interpretive texts. At the Gibbes Museum of Art. Call 843/722-2706 or visit www.gibbesmuseum.org.

Building the Future of Learning Zurich

Through May 11, 2005

An exhibition of twelve projects for a learning cen-



HIGH ENERGY EFFICIENCY
FOR YOUR CUSTOMERS.
HIGH PRAISE FOR YOU.

ENGLERT ULTRA-COOL™ METAL ROOFING.

Now, one product seamlessly combines beauty, energy efficiency and accolades. Englert Ultra-Cool™ metal roofs are tested systems that offer all the profiles, finishes and textures you could want in standing seam. Each style comes in virtually unlimited panel lengths from eave to ridge, without end laps or splicing. And a concealed fastener system means the only thing you notice is the cool design. Best of all, every roof is backed by a 35-year warranty, and is Energy Star® and LEED® compliant. Englert Ultra-Cool Metal Roofing. Tops in efficiency, design – and referrals.



Images, Private residence by architect Hugh Newell Jacobson in Washington, DC.



Call 1-800-ENGLERT (364-5378) or visit www.englertinc.com for more information

CIRCLE 318 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

get
v
I need
cabinetry
specs to
create great
designs.
at
kraftmaidspec.com



Only KraftMaidSpec.com lets you download AutoCAD drawings of every single cabinet and gives detailed information on door styles, finishes, storage solutions and our quality construction. Visit KraftMaidSpec.com and see why so many architects rely on it as their design resource.

Made just for you.
KraftMaid
Cabinetry

www.kraftmaidspec.com

Dates & Events

ter at EPF Lausanne. At the Swiss Federal Institute of Technology Zurich. Call 411/633-2963 or visit www.ausstellungen.gta.arch.ethz.ch.

Groundswell: Constructing the Contemporary Landscape **New York City**

Through May 16, 2005

This exhibition presents 23 landscape design projects that reclaim and transform urban spaces—many derelict and in need of rehabilitation—into public parks and gardens. *Groundswell* features examples of the new artistic richness and critical debate in the design of public spaces, from small urban plazas to large parks for post-industrial sites to long-range plans for entire urban sectors. At the Museum of Modern Art. Call 212/708-9431 or visit www.moma.org.

Peter Eisenman: Barefoot on White-Hot Walls **Vienna**

Through May 22, 2005

This show encompasses all aspects of Eisenman's oeuvre—Eisenman as architect, theoretician, writer, teacher—with emphasis on his most recent projects. At the MAK Exhibition Hall. Call 43-1/712-80 00 or visit www.MAK.at.

Dennis Oppenheim: Indoors, Outdoors **Bartlesville, Okla.**

Through May 22, 2005

Known early in his career for his earthwork, kinetic, and conceptual art, the artist has recently turned to the relationship between sculpture and architecture. The exhibition brings together models for some 30 of his large-scale projects, along with design drawings and on-site photographs of completed works. At the Price Tower Arts Center, a tall mixed-use tower designed by Frank Lloyd Wright, which in itself is a masterpiece. Visit www.pricetower.org.

Josh Owen: big ideas/small packages **Philadelphia**

Through May 27, 2005

In this exhibition, industrial and graphic designer Josh Owen will be showing newly designed products in a series of vignettes throughout 222gallery. The opening coincided with the launch of DesignPhiladelphia, a 17 day festival committed to advancing the public's awareness of design exploration and innovation in or about the city of Philadelphia. Visit www.designphiladelphia.org.

New York Now **New York City**

Through May 28, 2005

A panoramic snapshot of the activity of New York architects at this moment, this exhibition showcases the scope and quality of the projects being created today by AIA New York Chapter members. At the Center for Architecture. Call 212/683-0023 or visit www.aiany.org.

Gunther Dominig: Structures That Fit My Nature **West Hollywood**

Through June 26, 2005

This exhibition focuses on two key projects by the Austrian contemporary architect: the Steinways (Stone House), the architect's own home, still in process; and the prize-



winning Nuremberg Documentation Center (Dokumentationszentrum), completed in 2001, which is a historical archive that transforms Albert Speer's Nazi coliseum into a memorial. At MAK Center at the Schindler House. Call 323/651-1510 or visit www.makcenter.org.

Carlos Garaicoa **Los Angeles**

Through June 12, 2005

The first U.S. museum survey of recent work by Cuban artist Carlos Garaicoa, who addresses Cuba's politics and ideologies through the examination of Modern architecture. At the Museum of Contemporary Art (MOCA) Pacific Design Center. Call 213/626-6222 or visit www.moca.org.

Constructing Stata: Photographs of Richard Sobol **Cambridge, Mass.**

Through June 15, 2005

A collection of unpublished photographs captures the construction process that brought MIT and the world the Frank Gehry-designed Stata Center. Through the works of Boston-based photographer Richard Sobol, visitors experience up close how this building came together. At MIT Museum's Compton Gallery. Call 617/253-4444 or visit www.web.mit.edu/museum.

Changing Streetscapes: New Architecture and Open Space in Harlem **New York City**

Through June 30, 2005

Dates & Events

This exhibition highlights recent construction and development in five areas: housing, commercial development, cultural and institutional projects, landscape, and planning. At the City College of New York (NAC Building). Call 212/650-7271 or visit www.ccny.cuny.edu/library/exhibits.html.

Blobjects & Beyond: The New Fluidity in Design San Jose, Calif.

Through July 10, 2005

Inspired by the idea that blobjects (blobby objects) have become defining products of the new millennium—often considered “cool looking” and compellingly curvaceous—the exhibition showcases the talents of some of today’s hottest designers. A rich range of product, furniture, graphic, media, and architectural work from across the globe will be featured. At the San Jose Museum of Art. Call 408/294-2787 or visit www.SanJoseMuseumofArt.org.

The High Line New York City

Through July 18, 2005

An exhibition of new High Line design work by the team of Field Operations and Diller Scofidio + Renfro. At the Museum of Modern Art. Visit www.thehighline.org.

Heather Allen: Architectural Textiles Washington, D.C.

Through July 29, 2005

This exhibition features 30 of Allen’s hand-woven and painted rugs and wall textiles. The architectural imagery represents Allen’s exploration of interior space and emotional color. At the Octagon, the museum of the American Architectural Foundation. Call 202/638-3221 or visit www.theoctagon.org.

Chicago Architecture Foundation Tours Chicago

Through March 2006

Led by trained volunteer docents, these acclaimed tours explore the architecture of the Chicago area via bus, boat, train, walking, or Segway. For descriptions of all tours, visit www.architecture.org/tours.

Worldview

Long-term

Worldview was started by the Architectural League in 2001 as a way of using the Web to create a forum for the presentation of new work in

architecture and urbanism in cities around the world that are often overlooked in the mainstream architectural press. *Worldview: Oslo* is the third in an ongoing series of Web reports on architecture and urbanism in cities around the world. Other cities in the series are Dhaka and Caracas, all of which can be accessed at www.worldviewcities.org.

454 Projects for Paris 2012 Paris

Long-term

Fixed or mobile structures, inflatable architectures, monoliths, monumental sculptures, observation towers, scaffoldings, giant stairways, ramps and stairs, fluorescent ring compositions, stretched canvas towers, a diversion of cranes, a forest of urban periscopes: 454 projects from over 80 countries, for the realization of the Olympic Landmark in Paris will be on exhibition at the Pavillon de l’Arsenal, the center for information, documentation, and exhibition for urban planning and architecture of the City of Paris. Call 01 42-76-33-97 or visit www.pavillon-arsenal.com.

Washington: Symbol and City Washington, D.C.

Long-term

This exhibition examines the nation’s capital from its earliest city plans and sometimes haphazard development, to the origins of its distinctive monuments and the emergence of vibrant neighborhoods beyond the National Mall. Featuring large-scale touchable models of five of the capital city’s architectural icons—the White House, the Capitol, the Washington Monument, and the Lincoln and Jefferson Memorials—the exhibition displays maps, drawings, artifacts, videos, and photographs. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org.

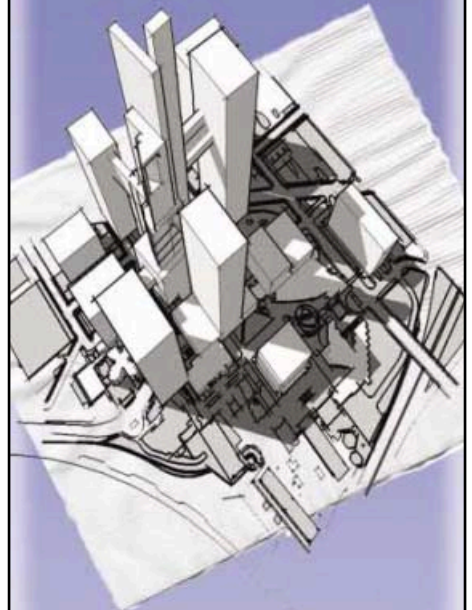
Lectures, Conferences, and Symposia

Symposium: Private “Public” Spaces— A Stimulus for Urban Revitalization Washington, D.C.

May 2, 2005

Privately developed open spaces such as plazas, atriums, and parks are underappreciated catalysts for urban revitalization. Jerold Kayden, a Harvard Graduate School of Design professor, will analyze the impact of such spaces, with an emphasis on New York City. He will join Andrew

LOVE SKETCHING
ON NAPKINS?



SketchUp®

Award-winning!

SketchUp is a must-have 3D tool for busy architects.

Its unique user interface allows for quick, easy 3D model creation, modification and presentation without a steep learning curve.

And... SketchUp works and plays well with CAD and multimedia applications!

Mac or Windows \$495.



Download your FREE trial:
www.sketchup.com

CIRCLE 320 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/



Innovators of Fine Solid Bronze
Architectural Hardware

208.788.3631 tel • 208.788.1306 fax
www.svbronze.com

P.O. Box 3475 • Hailey, Idaho 83333

Dates & Events

Altman, chief executive of the Anacostia Waterfront Corporation, to discuss other cities' experiences with privately financed public spaces. Paul Farmer, executive director and C.E.O. of the American Planning Association, will moderate the program. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org.

Coverings 2005

Orlando

May 3-6, 2005

The most comprehensive tile and stone marketplace in the Americas, with more than 29,000 industry professionals from around the world expected to meet 1,000 exhibitors spotlighting new products, trends, materials, distribution, installation, and more. At the Orange County Convention Center. Call 703/683-8500 or visit www.coverings.com.

RAIC Festival of Architecture: Architecture, Art and Urban Design— Celebrating the City Edmonton, Alberta

May 4-7, 2005

The festival is an annual event that takes place in a different Canadian city each year offering delegates a chance to exchange ideas and attend credited professional development courses, as well as listen to some of the professions' most forward thinkers. The Winspear Centre, City Hall, the Citadel Theatre, and the Shaw Conference Center will provide venues for lectures, exhibitions, and special events. Visit www.raicfestival2005.ca.

FreshForum2

Houston

May 4, 2005

FreshForum2 invites the public to view, party-style, a free exhibition of the Rice Design Alliance (RDA) Partners' recent work as emerging design professionals. In the gallery space of Intexture Architects. Visit www.rda.rice.edu.

Lecture: Christiane Crasemann Collins New York City

May 5, 2005

Christiane Crasemann Collins is a historian of 20th-century and contemporary architecture and city planning, specializing in Central Europe and the Americas. She has lectured at academic institutions in the United States and abroad, and is author of *Werner Hegemann and the Search for*

Universal Urbanism and coauthor of *Camillo Sitte: The Birth of Modern City Planning*. At the Bard Graduate Center. Call 212/501-3011 or visit www.bgc.bard.edu.

Sustainable Arkansas 2005: Rethinking Site, Water, Energy & Materials Little Rock

May 5, 2005

A full-day conference and trade show featuring speaker Dr. David Suzuki, a world-renowned scientist and environmentalist with a mission to build a clean, competitive economy that does not threaten natural resources. Presented by the U.S. Green Building Council (USGBC) at the Statehouse Convention Center. Visit www.sustainablearkansas.com.

The Society for Marketing Professional Services (SMPS): Professional Development New York City

May 6, 2005

Cosponsored with AIANY, this half-day workshop is entitled "Leads and Targets: Business Development Tactics to Help Your Firm Grow." At the Center for Architecture. Call 212/921-0061.

Lecture: SHoP/Sharples Holden Pasquarelli Washington, D.C.

May 6, 2005

Founded in 1996, SHoP has become widely recognized for combining digital expertise, including three-dimensional form generation and rapid prototyping, with model building to arrive at original and buildable solutions. One of five principals, Greg Pasquarelli will discuss the firm's logic-based design strategies, which masterfully reconcile cutting-edge design with value engineering. The firm's projects include an academic building for New York's Fashion Institute of Technology, the master plan for the East River Waterfront Development, and several buildings in Mitchell Park on Long Island. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org.

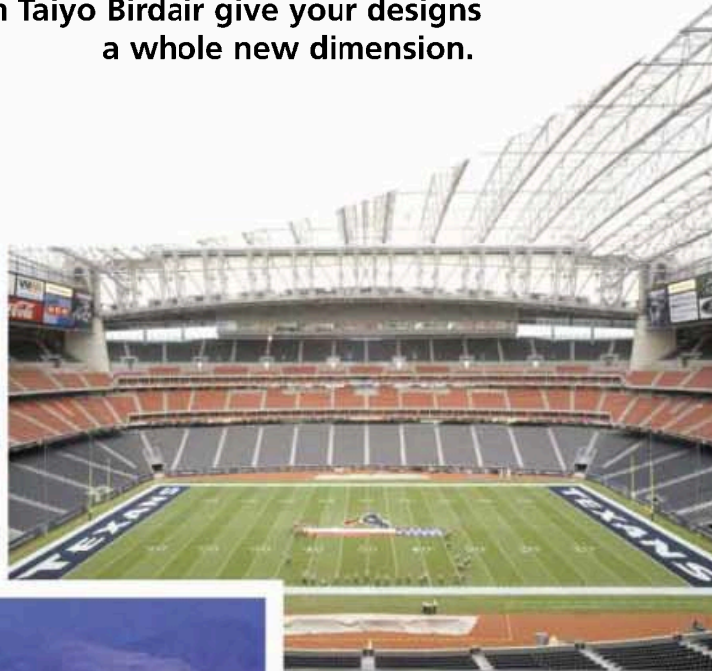
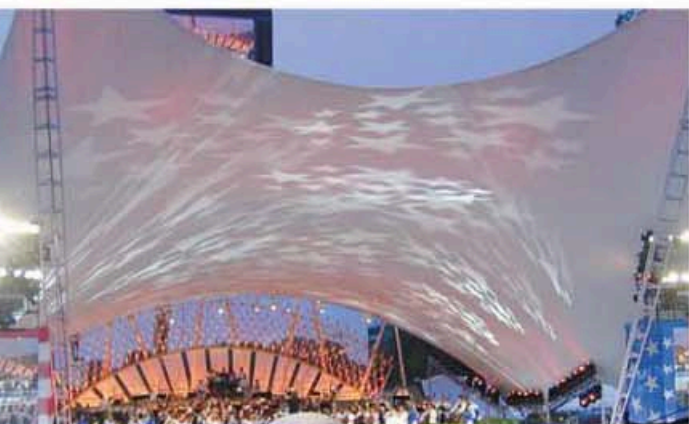
Brooklyn Designs 2005 Brooklyn

May 6-8, 2005

The show jury, which includes prominent designers as well as representatives from *Interior Design Magazine*, *Metropolitan Home*

Stretch your imagination.

Tensioned membrane structures from Taiyo Birdair give your designs a whole new dimension.



Taiyo Birdair has complete design/build resources for tensioned membrane and lightweight roofing systems.

Whether your vision is a world-class sports stadium, a stunning retail complex or an innovative museum concept, we can help you create tensile architecture, large and small, like no one has ever imagined.

We'll work with you and your clients to turn your ideas into a beautiful, strong, and long-lasting structure.

Contact us today for more information.

MakMax
maximizing membrane

Taiyo Birdair Corporation

800-315-4842 / 716-204-1234

Fax: 716-204-1236

Email: sales@taiyobirdair.com

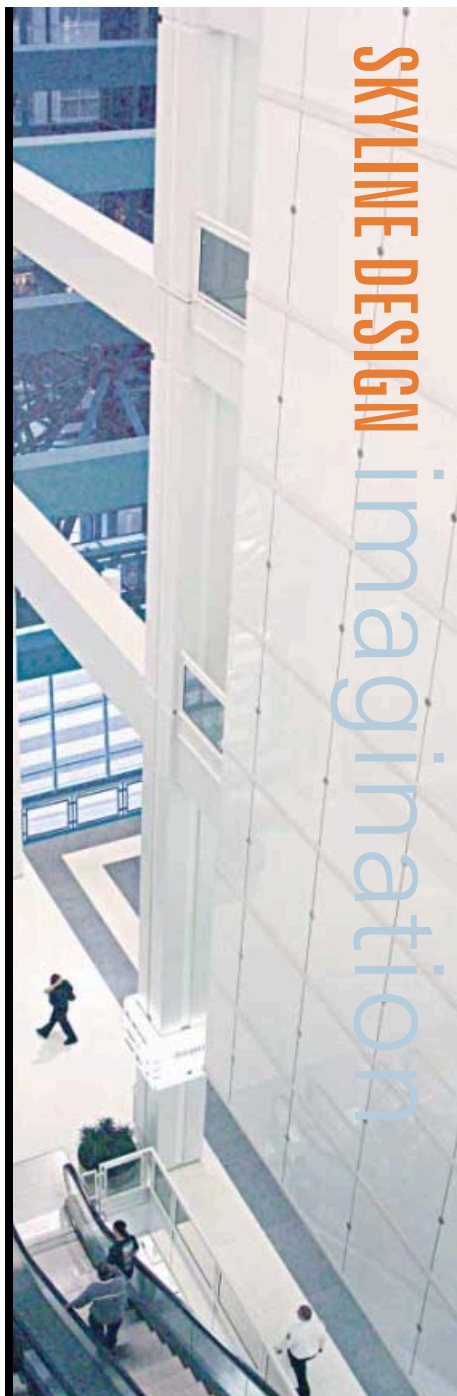
www.taiyobirdair.com

Visit us at AIA National, Booth 3717



CIRCLE 322 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Taiyo Birdair



Vitracolor™ opaque colored glass

for interior and exterior wall cladding is offered in an infinite selection of hues. White clad walls are featured at Citicorp Center in Chicago.

www.skydesign.com

AIA BOOTH NUMBER 3418

SKYLINE DESIGN
ARCHITECTURAL ART GLASS

TEL: 888.278.4660

MADE IN CHICAGO

Architect: Perkins & Will Glazing: Trainor Glass

Dates & Events

Magazine, and *Furniture New York*, selected the best Brooklyn-based designers and manufacturers of contemporary furnishings. Brooklyn Designs has a unique appeal that draws trade and press contacts as well as a knowledgeable buying public. At St. Anne's Warehouse. Call 718/243-1414 or visit

www.brooklynndesigns.net.

Cool Roofing ... Cutting Through the Glare

Atlanta

May 12-13, 2005

The Roof Consultants Institute Foundation (RCIF) presents a symposium focusing on evolving philosophies concerning the most effective methods to address "cool roofing" at the Hyatt Regency Hotel. Call 800/828-1902 or visit www.rci-online.org.

Retail Lighting Solutions

Peachtree City, Ga.

May 12-13, 2005

A two-day workshop to explore light from the designer's perspective and earn continuing education credit from Cooper Lighting's The Source, a leading lighting educational facility. Call 770/486-4680 or visit www.cooperlighting.com/education for further information on this or other workshops.

Malfatto: Imperfect Design for a Better World

New York City

May 13, 2005

This one-day symposium will explore a current cultural phenomenon: the movement of consumers away from the type of clean, supremely functional aesthetic that only industrialization could realize, toward unique, sensual objects that make explicit the human origins of their manufacture. During ICFF at Tishman Auditorium. Call 212/842-2047.

ICFF 2005

New York City

May 14-17, 2005

The International Contemporary Furniture Fair will be held at the Javits Convention Center. For further information, visit www.icff.com.

I Saloni Worldwide New York New York City

May 14-17, 2005

I Saloni Worldwide New York will feature a wide range of furnishings of the most innovative contemporary designs produced by Italy's most important manufacturers. More than 60 exhibitors, 12,000 visitors, and 200 journalists are expected to attend. At New York's Show Piers (90 and 92). for information, visit www.isaloniworldwide.com.

Lecture: Thom Mayne Los Angeles

May 16, 2005

Thom Mayne is principal of the firm Morphosis in Santa Monica and a professor in the UCLA Department of Architecture and Urban Design. A recipient of numerous awards, his current projects include the 2012 Olympic Village for New York City, San Francisco Federal Building, CALTRANS District Headquarters in Los Angeles, and the University of Cincinnati Student recreation Center. At UCLA Department of Architecture and Urban Design Perloff Hall. Call 310/267-4704 or visit www.aud.ucla.edu.

Lecture: Eisenman Vienna

May 17-19, 2005

These lectures are part of the supporting program for the exhibition *Peter Eisenman: Barefoot on White-Hot Walls*. Anthony Vidler, dean, School of Architecture, Cooper Union, New York, will cover the topic "What the Hell is a Diagram," and Andrew Benjamin, professor of Critical Theory in Design and Architecture at the University of Technology, Sydney, will discuss "Displaying Architecture: Eisenman's Exhibition." At MAK Lecture Hall. Call 431 711/36-248 or visit www.MAK.at.

Lecture: John Ronan Chicago

May 18, 2005

As part of the Graham Foundation's "About Chicago" program series, local architect John Ronan will speak on the recent work of his practice, John Ronan Architects, whose projects range in scale from private residences to large public buildings. In a lecture entitled "Distillation," Ronan focuses on spatial and material investigations within a cultural climate of rapid change and considers aspects specific to the current building climate in Chicago. For information, call 312/787-4071 or visit www.grahamfoundation.org.

AIA Expo
Booth
4023

explore
design
deliver

form·Z⁵

3D form synthesizer

3D: Solids • NURBS • Surfaces

2D: Drafting

Photorealistic Rendering

Sketch Rendering

Animation

Information Management

Fabrication

Re-Engineering

... and so much more
in a cross platform
environment

If you can imagine the shape, you can build it with form·Z

Bill of Materials			
MATERIAL	SURFACE AREA		VOLUME
Concrete	4,075.850 sq ft	2,033.925 cu ft	WE
Steel	2,458.770 sq ft	1,224.385 cu ft	1.27%
Form	568.823 sq ft	280.911 cu ft	764%
Concrete	157.250 sq ft	78.625 cu ft	1758%
Steel	2,037.871 sq ft	1,018.935 cu ft	5411.077%
Form	1,755.950 sq ft	878.939 cu ft	1838%
Form - Exterior	694.555 sq ft	347.277 cu ft	730%
Form - Interior	785.905 sq ft	394.639 cu ft	808%
Form - Slab	2,569.722 sq ft	1,284.861 cu ft	3380%
Form - Slab 2	1,831.973 sq ft	915.986 cu ft	2326%
Form - Slab 3	2,806.925 sq ft	1,403.462 cu ft	3608%

IMAGE CREDITS: "Dream House" by LJ Porter/Resolution: 4 Architecture, New York, New York, www.re4a.com;
"Martin Luther King Memorial" by Kevin A. Cospedes, Ocean D. Cospedes, www.oceanD.com;
"Design Factory" by James T. Bruck, Pygmy Studios Inc, Jackson, New Jersey, www.pygmystudios.com;
"Rapid Prototype" by Morphosis, Santa Monica, California, www.morphosis.net; "Drafting Image" by Trey Wheeler, TWH Architects, Chattanooga, Tennessee, www.twharch.com

autodesys inc
2011 Riverside Drive
Columbus, Ohio 43221
(614) 488-8838
www.formz.com

CIRCLE 324 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

TLCeBOOK



KINGSLEY-BATE

Elegant Outdoor Furniture in Solid Teak



For the dealer nearest you visit
www.kingsleybate.com
 To the trade.
 t 703.361.7000 f 703.361.7001

Dates & Events

Twelve Years of Folding: Deleuze and the IT-Revolution in Architecture **Vienna**

May 21, 2005

A body of writings by Peter Eisenman and the essays collected in Greg Lynn's *Folding in Architecture* prompted a critical turn in architectural thought in the early 1990s. This symposium will consider the sources, contexts, influences, and legacies of these seminal texts. At the MAK Lecture Hall. Call (431)711/36-248 or visit www.MAK.at.

Architecture and Inspiration: Frank Lloyd Wright's Influences **Chicago**

Through May 21, 2005

Spring Adult Classes held on Saturdays. At the University of Chicago Gleacher Center. For further information, call 800/997-9689 or visit www.grahamschool.uchicago.edu.

Lecture: Julia Czerniak **Los Angeles**

May 23, 2005

Julia Czerniak is an associate professor at Syracuse University School of Architecture, visiting faculty member in the UCLA Department of Architecture and Urban Design for the spring quarter, and principal of Clear in Syracuse, N.Y. She was editor of the publications *CASE: Downsview Park Toronto* (Prestel 2001) and *Large Parks* (Spacemaker Press, 2004). She has lectured widely and has been a guest faculty member at Harvard, the University of Pennsylvania, and the University of Toronto. At UCLA, Department of Architecture and Urban Design, Perloff Hall. Call 310/267-4704 or visit www.aud.ucla.edu.

Lecture: Factory Built Components and the Modern American House **Washington, D.C.**

May 25, 2005

The building industry continues to improve its efficiency and capabilities. Jim Petersen, with Pulte Home Sciences, will discuss Pulte's current work with large-scale, factory-built components that can be easily transported and effectively and efficiently incorporated into the residential home. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org.

Lecture: Kathryn Gustafson: Moving Horizons

Washington, D.C.

May 26, 2005

The landforms designed by landscape architect Kathryn Gustafson, translate concepts that strengthen a site's nature, history, culture, and function. Principal of Gustafson Guthrie Nichol, Seattle, and Gustafson Porter, London, she will discuss her firms' projects, including the Lurie Gardens in Chicago's Millennium Park, the Diana, Princess of Wales Memorial in London, and the recently commissioned Washington Canal Park in Washington, D.C. Call 202/272-2448 or visit www.nbm.org.

Architects in Troubled Times: Mies and the Making of Modernism **Chicago**

June 4, 2005

Noted author and historian Franz Schulze will deliver the keynote address at a conference focused on the legacy of Mies van der Rohe, one of the 20th century's most significant architects. At the Illinois Institute of Technology. Call 312/922-3432 or 312/332-5870 for more information.

Rhode Island Symposium, "Manifesto Challenge: Fostering Resilient Communities" **Providence**

June 5-7, 2005

This symposium will investigate and seek to understand the transformation processes that are taking place in the cities of Providence and Liverpool. Once successful port cities built on trade in the 19th and early 20th centuries, they both fell into decline by the 1970s. Recently they've seen a remarkable turnaround. The goal is to improve the quality of the questions we ask about urban transformation and to reveal important factors in common between these two cities. Call 703/830-4176 or visit www.rsa-us.org or www.theRSA.org.

The New York State Urban Development Corporation Symposium Committee **New York City**

June 11, 2005

The symposium's panels will discuss the UDC initiative, operations, emphasis on design quality and livability, the role of politics, and the future of housing for people of limited income. Panelists will include former UDC principals, housing developers of for-profit and not-for-profit projects, architects and planners,

Brought to Light.

*First National Bank of Hawaii, Honolulu, HI
Kohn Pedersen Fox Associates – Architects
Gensler – Interiors*

The trend toward sustainable design and daylighting has opened new opportunities for the architect and designer. It has also brought to light new challenges, notably the impact of the solar ray to the designed environment.

With over 30 years experience, MechoShade® has established itself as the leading single-source manufacturer of complete integrated solar shading systems, controls and daylighting solutions. Our experience in motorized and manual shading is unsurpassed. We offer a wide variety of control solutions for both commercial and residential applications. From simple line voltage switches to networked, addressable, building-wide controls, MechoShade offers a variety of solutions including integration into 3rd party Lighting, BMS and A/V Systems. And with over 100 visually transparent shade cloths in various weaves, densities and colors, our manual and motorized systems can meet any performance and design requirement.

That's why no matter what the design aesthetic, from the most eclectic interiors to the most dramatic minimalist settings, you'll find MechoShade bringing sustainable design to light.

Please visit us at AIAExpo 2005, Booth 859

© 2004, MechoShade Systems, Inc., Long Island City, NY. All rights reserved.



The Architect's Choice.

MechoShade Systems, Inc.

42-03 35th Street, Long Island City, NY 11101

Tel: 718-729-2020 • Toll Free: 877-774-2572

Fax: 718-729-2941 • www.mechoshade.com

**CIRCLE 326 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/**

Stone River Bronze



door hardware • accessories
hinges • cabinet hardware
bath hardware
window & patio door

classic series • designer series
StoneRiverBronze.com

Dates & Events

architectural historians and critics, and current housing officials. In conjunction with the exhibition *Policy and Design for Housing Beyond the Minimum: Lessons of the Urban Development Corporation*. At the Graduate Center, CUNY. Visit www.udchousing.org.

NeoCon World's Trade Fair Chicago

June 13–15, 2005

An important annual event for professionals who design, plan, or manage any type of commercial or residential interior. With thousands of new product introductions and top industry players, NeoCon includes more than 1,200 showrooms and exhibitors. At the Merchandise Mart. Call 800/677-6278 or visit www.merchandisemart.com.

Green Cities Mundaneum 2005: IV International Reunion of Architecture San José, Costa Rica

June 23–25, 2005

Mundaneum is dedicated to the discussion of the state of cities, mainly in the developing world, its impact on the natural environment, and of recent world architecture. Organized every two years by the faculty of the Architecture and Urbanism department of Universidad del Diseño, speakers include Jamie Lerner of Curitiba, Brazil, Albert Pope of Rice University, Houston, architects Michael Sorkin and Steven Ehrlich, as well as other experts from Europe and Latin America. For further information visit www.unidis.ac.cr.

The UIA 2005 Istanbul Congress Istanbul

July 3–7, 2005

The UIA 2005 Istanbul Congress will be organized under the theme of "Cities: Grand Bazaar of Architecture" as a multidimensional event including meetings, conferences, interviews, exhibitions, competitions, tours, an architectural fair, as well as social and cultural activities. Visit www.uia2005istanbul.org for more information.

Glenn Murcutt International Architecture Master Class Sydney

July 10–24, 2005

Commenced in 2001, participants in the annual master class have included architects, academics, postgraduates, and senior students from around the world. Glenn Murcutt, 2002 Pritzker Prize laureate and visiting professor at many

prestigious international universities, leads the master class, a two-week residential studio program which will be held for one week at the Boyd Education Centre "Riverdale" (described as Murcutt's "Master Work") and for the second week at the University of Sydney School of Architecture. Visit www.ozetecture.org.



CA/BOOM II: The State of Contemporary Design Now

Santa Monica, Calif.

July 28–31, 2005

This three-day event showcases contemporary architecture and independent contemporary design. Professionals and design enthusiasts will be exposed to an array of contemporary and non-traditional architecture, interior design, furniture design, and landscape design through a provocative and entertaining mix of gallerylike exhibition, guided home tours, and speaker conferences. At the Santa Monica Civic Auditorium. Call 310/306-6677 or visit www.caboom2.com.

Competitions

2005 Summer Faculty Fellowship

Deadline: May 4, 2005

Each year the Boston-based design firm Goody Clancy offers a unique Professional Fellowship to an individual motivated to contribute to and gain experience from the firm. In addition to a \$15,000 stipend, the selected fellow will spend the summer at the Boston office and have access to the firm's resources. For further information, call 617/850-6556 or visit www.goodyclancy.com.

Promosedia International Design Competition: Ideas for Chair Design

Deadline: May 6, 2005

The aim of the competition is to stimulate creative ideas, which must be technically feasible. Submissions are invited that express originality and innovation and that identify the use and function of the chair, giving due consideration to ergonomics, choice of materials, and the requirements of mass production. Call 39/0432-229127 or visit www.promosedia.it.

MOST PEOPLE SEE BUILDINGS THIS WAY.



**YOU, HOWEVER,
SEE THINGS
MUCH DIFFERENTLY...**



Exceeds client ROI performance requirements

Integrated daylighting strategy

24% better energy performance than code

75% C&D waste recycled

High efficiency, zoned HVAC system

LEED Silver

Balfour-Guthrie Building. Photo © Lara Swimmer Photography.

With an emphasis on the costs and benefits of building green, Greenbuild 2005 will deliver three days of dynamic educational programs, a full range of LEED workshops, 15 Master Speakers, ample networking events and the latest innovations from over 500 exhibitors.

Whether you're an experienced practitioner or just entering the world of green building, you'll meet the right people, find the right courses, share in an extensive program of events designed to enhance your business, inspire your practice and improve your bottom line at Greenbuild 2005.

Mark your calendar for November 9–11. Register online now at www.greenbuildexpo.org

We'll see you in Atlanta!

Want to **see more?**

Want to **learn more?**

Want to **experience more?**

Register online now for **EARLY DISCOUNTS** at:
www.greenbuildexpo.org




greenbuild
International Conference & Expo
Atlanta, November 9–11, 2005

**CIRCLE 328 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/**



©2005 U.S. Green Building Council. All rights reserved.

Architectural Bird Control



only from Nixalite®



Nixalite® Strips

- All 316 stainless steel
- Inconspicuous control
- Proven no-gap design
- Lasts a life time
- Works for all birds



Bird Netting

- 3 lines of bird netting
- All nets UV resistant
- Lightweight & strong
- Seamless construction
- Complete hardware



FliteLine

- Stainless post & wire
- 2-wire per post design
- Stronger, thinner posts
- Fastens to all surfaces
- Discreet deterrent



New Website

- New Arch Info Center
- Current 3-part specs
- Submittal information
- Automated estimates
- Installation drawings

Free Catalog:

www.nixalite.com

Ph 800.624.1189

Fx 309.755.0077



Nixalite® of America Inc
1025 16th Ave. East Moline, IL 61244
Email: birdcontrol@nixalite.com

Protecting America's Heritage Since 1950!

Dates & Events

AIA New England Design Awards

Deadline: May 17, 2005

Any built project of any type anywhere in the world by any New England architect is eligible and any architect anywhere in the world may submit projects built in New England. Visit www.architects.org.

AIA/LA Restaurant Design Awards

Deadline: May 20, 2005

The first Los Angeles Restaurant Design Awards will recognize edgy, elegant, and functional restaurant design. For information, call AIA/LA at 213/639-0777.

ANAS International Design Competition

Deadline: May 30, 2005

Three design competitions over two selection phases: a preliminary design of two bridges over the River Arno in Florence; an environmental architectural project for the entrance and exit of the new Mestre Motorway Tunnel in Venice; and a relandscaping along the Salerno-Reggio Calabria Motorway, including a motorwayside museum. Visit www.arcaedizioni.it/anas/.

2005 USGBC Natural Talent Design Competition

Deadline: June 10, 2005

This competition provides an applied learning experience in the principles of integrated design, sustainability, innovation, and social consciousness—all of which are components of the LEED Green Building Rating System. There will be two categories: New Construction and Existing Building. Working with the Boys & Girls Clubs of America the USGBC will select two Boys & Girls Club projects. Visit www.usgbc.org/chapters/emerginggreen.

John M. Clancy Award for Socially Responsible Housing

Deadline: June 13, 2005

Any public- or private-sector multifamily project anywhere in the U.S. that provides shelter for low- and/or moderate-income residents may be submitted by any individual, community group, or organization anywhere in the world. Visit www.johnclancyaward.org.

Benjamin Moore HUE Awards

Deadline: June 30, 2005

Architects and designers who incorporate color in innovative and imaginative ways through the use of interior and exterior paints, building materials,

Cost
estimating
data you can
count on!

The 2005 Sweet's
Cost Guides



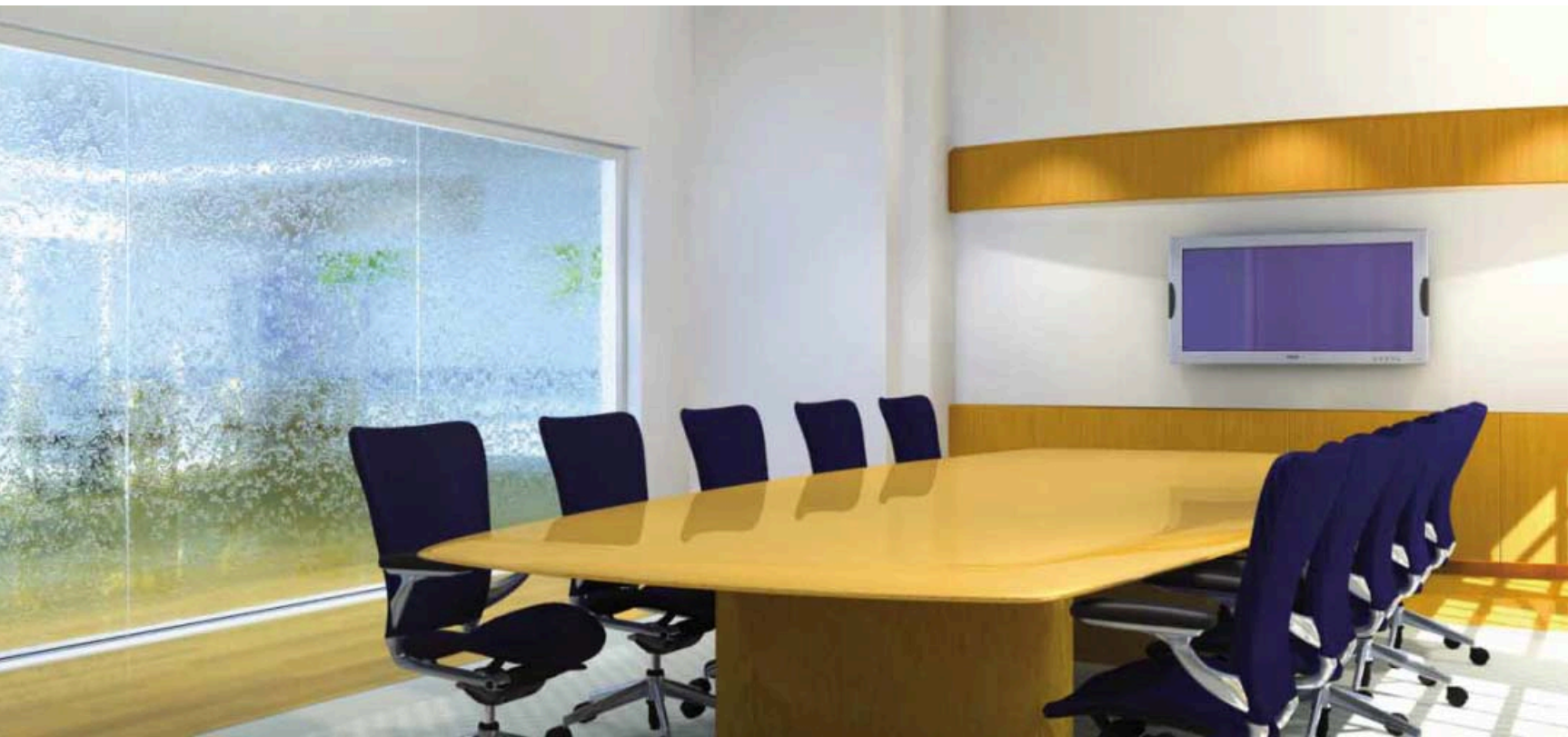
CALL 1-888-264-2665

Please specify priority code 444T

McGraw Hill
CONSTRUCTION Sweet's S

BNI Building News

1612 S. Clementine, Anaheim, CA 92802
www.bnibooks.com



elegance, beauty, style... privacy

The Translucence Series™ Waterfall
Architectural water elements from
the premier maker of indoor waterfalls



Harmonic Environments

www.HarmonicEnvironments.com

800.497.3529

CIRCLE 330 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

TlFe800H

Exactly what
our doors expect
and deserve.



Marvin introduces
Marvin Architectural Hardware:
An exclusive selection
of designer handle sets
to complement our
factory-prepped French Doors
with no need for additional
custom modifications.
Please call 1-800-321-0039
or go to www.marvin.com
for a brochure or
to find the dealer nearest you.

MARVIN
Windows and Doors

©2005 Marvin Windows and Doors. All rights reserved.
®Registered trademark of Marvin Windows and Doors.

Dates & Events

textiles, and other surfaces are being encouraged to enter the first annual Benjamin Moore HUE Awards. Visit www.benjaminmoore.com.

14th Annual Ermanno Piano Scholarship

Deadline: June 30, 2005

This scholarship was created for recent graduates of architecture to give them the opportunity to continue their education through a six-month internship within the Renzo Piano Building Workshop in Paris. Visit www.rpbw.com.

Solutia International Design Awards

Deadline: June 30, 2005

Now in its seventh year, the Solutia International Design Awards is a global competition that pays tribute to architects, interior designers, automotive designers, and laminators who have used laminated glass liberally in their design. Entries are being accepted for the awards, which will recognize projects that demonstrate innovative uses of any of Solutia's architectural glazing products. Visit www.vanceva.com/design.

Vetter Inspired Project (VIP) Awards

Deadline: July 1, 2005

An annual national design contest for architects and custom builders, open to any project completed between January 1, 2002, and June 30, 2005, using Vetter windows and patio doors. Call 800/838-8372 or visit www.vetterwindows.com.

Shinkenchiku Residential Design Competition 2005

Deadline: July 13, 2005

A call for entries that explore new potential in architecture through the design of "the residence, a place for human dwelling." Two architects, Tadao Ando and Richard Rogers, will serve as judges. For further information, visit www.japan-architect.co.jp/english/5info/topics/skcompe2005/skcompe2005.html.

The 22nd Antron Fiber Design Award

Deadline: September 16, 2005

This award program recognizes designers who are setting new standards of creativity in commercial interior design through the innovative use of carpet. Visit www.antron.invista.com/designwards.

E-mail event and competition information two months before event or submission deadline to elisabeth_broome@mcgraw-hill.com.

NATIONAL BUILDING MUSEUM AT NBM

Lectures

May 2 Private "Public" Spaces

Jerold Kayden, Harvard Graduate School of Design; Andrew Altman, Anacostia Waterfront Corporation; and Paul Farmer, AICP, American Planning Association



PARK WESTERGAARD, GUSTAFSON GUTHRIE NICHOL LTD.

May 6 SHoP / Sharples Holden Pasquarelli

Gregg Pasquarelli, principal, New York

May 26 Kathryn Gustafson: Moving Horizons

Kathryn Gustafson, ASLA, principal of Gustafson Guthrie Nichol, Seattle and Gustafson Porter, London

Exhibitions

OPEN: new designs for public space
through May 15, 2005

Tools of the Imagination
through October 10, 2005



LIBRARY OF CONGRESS, PRINTS AND PHOTOGRAPHS DIVISION

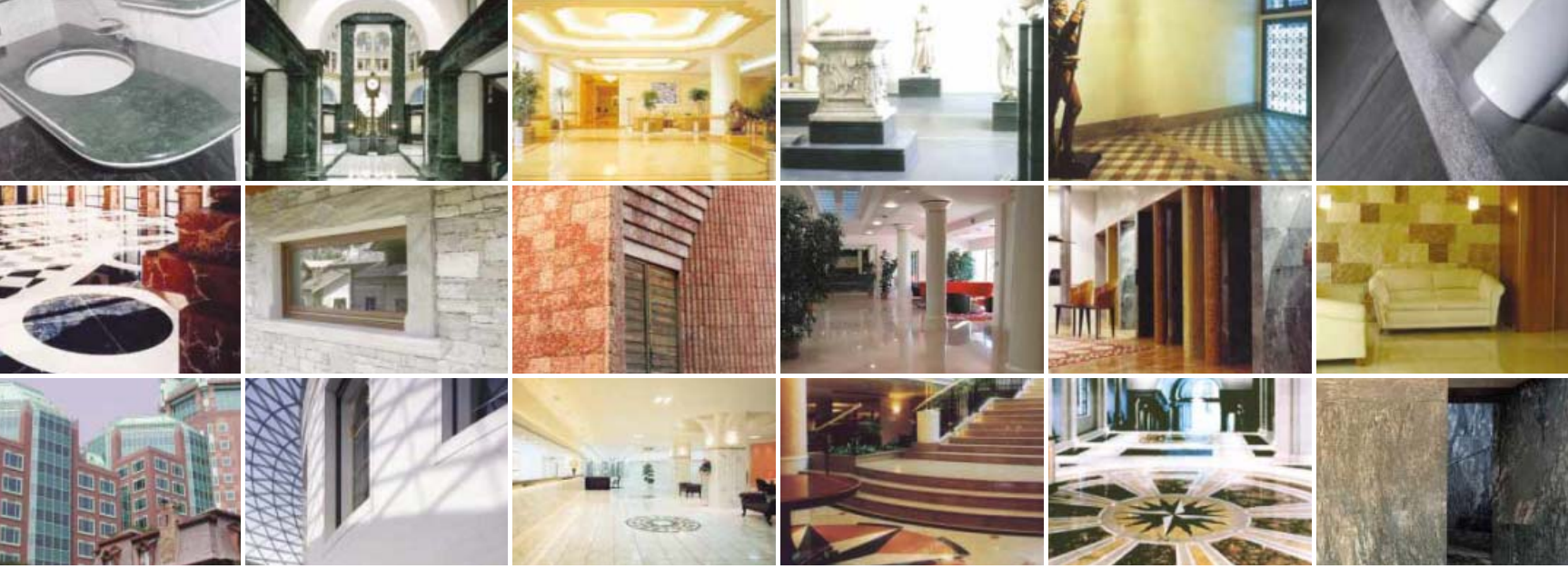
**Liquid Stone:
New Architecture in Concrete**
through January 29, 2006

National building museum

401 F Street NW
Washington, DC 20001
202.272.2448
www.NBM.org



For more information and to register for programs, call or visit our website. Discounts for members and students.



Italian works of Art around the World.

There are many works of art by Italians that are not found in museums. Since the dawn of civilization, Italians have created and exported some of their most lasting works of art in Natural Stone: statues, mosaics, floors, balustrades, columns, countertops, stairs and facades found in buildings around the world. PIETRA NATURALE is recognized as the highest quality of Italian Craftsmanship and stone processing technology. Look for our PIETRA NATURALE trademark as your assurance of an Italian work of art in Natural Stone – the perfect encounter between man and nature.

www.pietranaturale.com



Ministero delle Attività Produttive



Italian Trade Commission
Los Angeles Office

ASSOMARMI



CIRCLE 332 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/



TLEB0004

THE

AIA Contract Documents are the way everyone in the

INDUSTRY

can safeguard their interests and ensure all projects meet the same

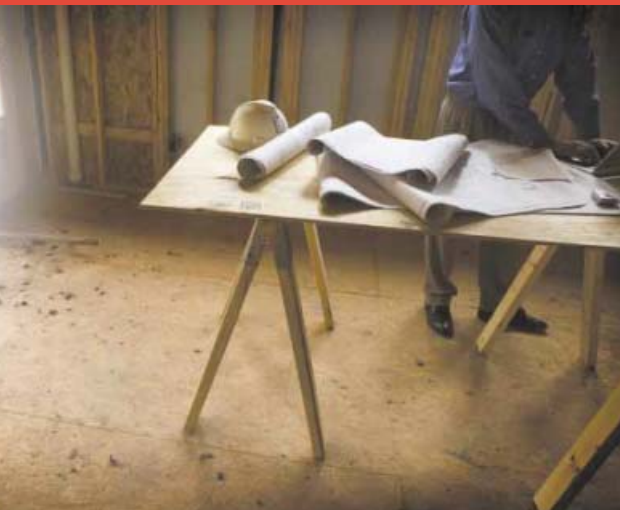
STANDARD.

AIA Contract Documents

Put the most widely used contract documents to work for your firm.

Go to www.aia.org to purchase the industry standard today.

TlFe800H





America's Choice

for Architectural Metal Building Products

UNA-FAB™ Wall Panels & Column Covers

- Design flexibility in shapes, colors, and finishes
- Superb flatness and excellent rigidity
- Radiused applications

*Call UNA-CLAD today and
speak with our experienced,
knowledgeable staff.*

800.426.7737
www.UNACLAD.com

CIRCLE 333 ON READER SERVICE CARD OR GO
TO ARCHITECTURAL CONSTRUCTION.COM/PRODUCTS/
UNA-FAB



PROMOEDIA2005 INTERNATIONAL CHAIR EXHIBITION

what

THE ONLY SHOWCASE
of its type in the world
specialized in seating,
promoting chair design
open to the trade
and professionals only

when

SEPTEMBER 8TH - 11TH
6,000 products on display,
exhibitors from Europe
and overseas,
visitors from 73 countries
in 2004

where

UDINE, ITALY
near Venice,
in the heart of the
industrial chair district,
with an old tradition
and know-how
in chair manufacturing

why

ESPECIALLY CHAIRS
in the chair district
about 1,000 manufacturers
produce about 40 million
chairs every year, 1/3 of
the total world's production



CIRCLE 334 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

www.promoedia.it

in contitolariet  con

Udine Fiere

CARTELLI
PROMOEDIA
AUTOMATI
F. MANZANO
F. MANZANO

BANCA
MANZANO

FRULLI
BENGA
GILIA
Opere di gente unica

TLFeBOOK

PHILIP JOHNSON/Essay by Schulze (continued from page 178)

bined with a ravenous ambition defeated the self-discipline necessary to explore a stylistic approach in depth and thereby to master it. Sometimes he seized upon impressive forms, such as the IDS Tower in Minneapolis (page 179, 6), Pennzoil Place in Houston (page 180, 8), or the space frame of the Crystal Cathedral in Garden Grove, California (page 179, 5). Then, virtually as soon as such concepts struck him, he would abandon them, turning away like an indiscriminating child and delivering himself of bizarre mutations like the Bank of America Center (formerly Republic Bank) of Houston (1984), or that ultimate vulgarity, the multi-use Crescent in Dallas (1985).

Curiously, Johnson's almost involuntary flitting from style to style does not address the one overarching consistency in his approach to the profession—more exactly, to the art. He never stopped believing that the aesthetic dimension was the only admissible measure by which architectural quality could be judged; social, economic, political, and moral values mattered not at all. In fact, to some extent his passion for how

FOR JOHNSON, THE AESTHETIC DIMENSION WAS THE ONLY ADMISSIBLE MEASURE BY WHICH ARCHITECTURE COULD BE JUDGED.

things look rather than what they stand for accounts for the fascination he found in the pageantry—the leather jackets, the parades of goose-stepping soldiers, the nocturnal rallies with search lights scanning the skies—at which the Nazis were so skilled.

When playwright Arthur Miller died just a few weeks after Johnson, it was impossible not to notice the enormous difference in motives for creative expression between two of the most famous people in the American arts of the 20th century. Miller was guided—driven—by social and moral issues that he insisted required taking sides. By contrast, Johnson, the cynic, explained: "I don't believe in the good, the true, or the absolute, or in justice or mercy." Instead, he took his cue from the Sophists of ancient Greece, who understood truth in a relative and contingent manner and advocated persuasion in lieu of "proof," thus elevating rhetoric to the highest place in human communication. Surely, he was a master of self-promotion, evident in the exceptional wit he brought to bear when speaking extempore. Well into his 80s, he could hold an audience in the palm of his hand: the architect as standup comedian.

That showmanship points to another, superficially related but ultimately profounder effect, in which his gift for words was employed to an end not merely cynical but worthy of being taken seriously even by his harshest critics. In the years he spent as the on-and-off head of the architecture department at the Museum of Modern Art, he did more than anyone to make the study of architecture a museological discipline of the highest order. He was the catalyst behind the historic *Modern Architecture: International Exhibition* of 1932 that introduced America to the great European Modernists, chiefly Mies van der Rohe, Le Corbusier, and Walter Gropius, who set the course for world architecture for generations. He followed that success in 1934 with *Machine Art*, in which he convincingly demonstrated the beauty and elegance of ordinary manufactured tools. And he organized MoMA's 1947 retrospective of Mies's work, for which he wrote a monograph that remained for decades the prime source of information about one of the greatest architects of modern times.

He was responsible for other shows and other prose, most of it worthy of engaged study. His *Philip Johnson: Writings*, published in 1979, reveals an acute critical and historiographic mind—a figure far more admirable than the self-serving image dished up in 1994 in *Philip Johnson: The Architect in His Own Words*, where interviewers Hilary Lewis and John O'Connor gave him plenty of room to try to show the

world what a wonderful designer he was.

The lasting legacy? It probably is too early to say for sure, but from this biographer's corner, history will remember Johnson the curator, critic, and historian longer and with greater respect than it will Johnson the architect. ■

PHILIP JOHNSON/Essay by Stern (continued from page 180)

of the architect-turned-sculptor Tony Smith—to the skyscraper type. But Johnson's greatest accomplishment as a skyscraper architect was returning the romantic dimension of the 1920s to that building type. In the wake of post-Miesian revisionism, the skyscraper had become diagrammatic, perfunctory, and dull. Johnson's skyscrapers of the 1980s showed he was the new Raymond Hood, finding poetry in the adaptation of past forms to new technologies and a new scale of enclosure.

With AT&T (page 178, 1), Johnson picked up where McKim, Mead and White had left off. The loggia at the building's base was decidedly monumental, a place for pedestrians to crisscross under a soaring canopy. I wish it hadn't been filled in with stores and showrooms. In contrast to AT&T, the "Lipstick" Building (page 180, 9), also in Manhattan, is sheer fun and games. Its telescoping mass is a very New York design, highly reminiscent of the setback towers of the 1920s. More specifically, the "Lipstick" Building evokes an unrealized proposal of Raymond Hood's for Rockefeller Center in 1931. PPG Place in Pittsburgh (1984) may be a bit thick-waisted, but its glassy Gothicism does bring sparkle and a sense of wonder to that city's skyline. The Bank of America Center (formerly Republic Bank) in Houston (1984) revived the fanciful skyscraper massing of 1920s setback skyscrapers; and Transco Tower in Houston (1983), following the example of Bertram Goodhue's various late towers, shoots skyward with iconic clarity.

Johnson was one of the few architects of his generation who could create convincing monumental form (Louis Kahn was another, and on occasion, Eero Saarinen). The Roofless Church in New

JOHNSON HAS BEEN ACCUSED OF BEING DERIVATIVE, BUT ONLY THE NAIVE PRETEND TO UNCONTAMINATED ORIGINALITY.

Harmony, Indiana (1960), with its walled temenos setting off the astonishingly complex geometry of the shingle-clad pumpkin dome that shelters Jacques Lipschitz's sculpture, is unforgettable, a great place of quiet, opening on one side to frame a heartbreakingly beautiful view of corn fields stretching to the horizon. His unrealized proposal for Ellis Island (1966) would certainly have rivaled the Statue of Liberty and Wright's Guggenheim Museum as a New York City icon. What a bold project it is, with its dynamic coil of ramps ringing a truncated cone! His New York State Pavilion for the 1964 World's Fair, even in its present state of dereliction, is one helluva marker on the flat landscape of Queens, New York.

Johnson has been accused of being derivative. But who isn't in some way or other? Only the most naive of us pretend to uncontaminated originality. Among the postwar Modernists, Johnson was the compulsive truth-teller, not only about the work of others, but also his own: "You cannot not know history," he admonished Yale students in the late 1950s. Johnson may have proclaimed his dependence on sources a little too much for his own good—he could be self-deprecatory to a fault—but in roaming around history, he always transformed what he saw in the past into something of his own.

I would like to continue extolling the virtues of Johnson's architecture, but I think it's important to shift (continued on next page)

Tile and stone should last forever...

The specification process should NOT!



Complete customizable specifications and details for successful ceramic tile and stone installation systems – *in seconds!*

Request yours at www.laticrete.com/ag



*Globally proven.
Professionally endorsed.*

www.laticrete.com • support@laticrete.com

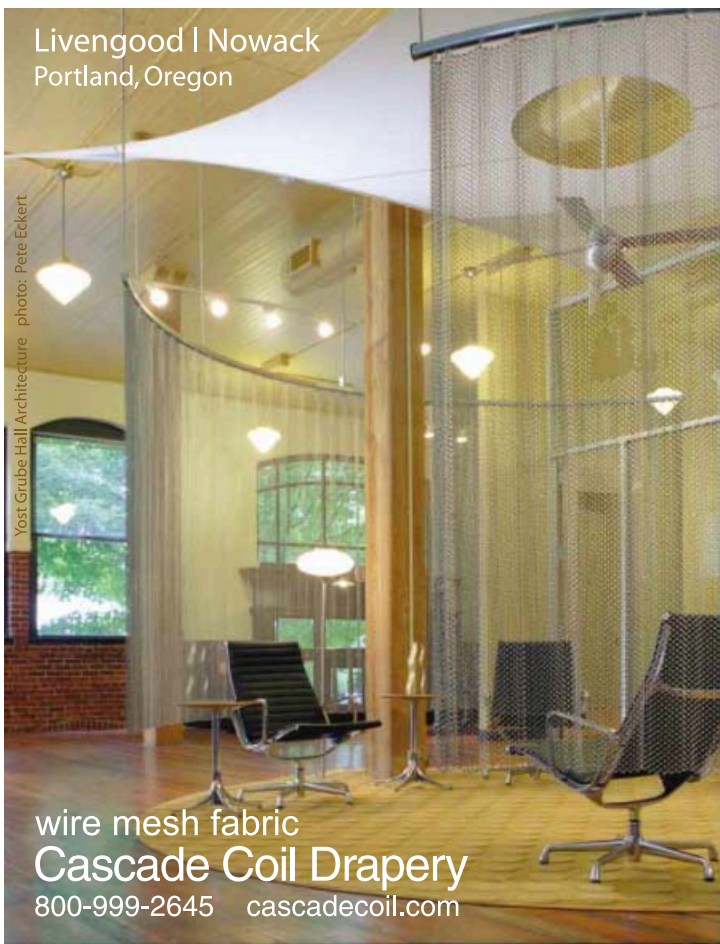
©2005 LATICRETE INTERNATIONAL, INC.

LATICRETE, LATAPOXY and the LATICRETE logo are Registered Trademarks of LATICRETE International, Inc.

CIRCLE 335 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/ A-1410-0405

Livengood | Nowack
Portland, Oregon

Yost Grube Hall Architecture photo: Pete Eckert



wire mesh fabric
Cascade Coil Drapery
800-999-2645 cascadecoil.com

The World's First...

Visit our website or order our full-color catalog to see all 31 of our power & data grommets and our other components.

PCS29

... Power and Data Grommet that sits on the desk! No holes, no clamps needed! Ideal for training tables, home offices, libraries. Flexibility and portability. Comes with one power outlet, one Cat. 5E data module. Black only. Size: 4 11/16" tall, 3 1/8" base.



"FINE ARCHITECTURAL HARDWARE FOR YOUR FINE FURNITURE"®

Doug Mockett & Company, Inc. • Manhattan Beach, CA • 800.523.1269

MOCKETT
DOUG MOCKETT & COMPANY, INC.

www.mockett.com

CIRCLE 336 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

PHILIP JOHNSON/Essay by Stern (continued from previous page)

emphasis and touch on another aspect of his life—a sensitive topic, the handling of which in some of the obituaries and posthumous commentaries has bothered me: Johnson's youthful foray into politics.

Many have brought up Johnson's Nazi and American right-wing sympathies of the 1930s as if this were secret information. Embarrassing, yes, but not secret. In fact, the matter was long ago acknowledged and discounted by those who knew him and by others whom he reached out to in an effort to make amends. At Yale, where I studied architecture in the early 1960s, Johnson was very much on the New Haven scene. And we all knew about his 1930s Nazi sympathies. Many of us read his essays in *Social Justice* and the relevant pages by William Shirer in his *Berlin Diary*. Ulrich Franzen, who had left Germany as a teenager in the 1930s and was a popular teacher at Yale, made us aware of how Johnson had been made to suffer for his misdeeds when he studied at Harvard's GSD in the early 1940s and when he later served in the Army during World War II. While

JOHNSON'S 1930S NAZI SYMPATHIES WERE NO SECRET TO THOSE WHO KNEW HIM AT YALE IN THE EARLY 1960S.

to my knowledge, neither Yale faculty nor students confronted Johnson with the embarrassing facts of his youthful political wanderings, we did discuss them among ourselves, speculating about what had attracted him to the Nazi cause; but then, we also speculated on why others were virulent Stalinists in the same era and continued to be so well beyond the point when Stalin's evils were common knowledge.

It was not only Johnson's pro-Nazism, but also his presumed anti-Semitism that we considered. As Johnson and I became friends, we talked about anti-Semitism and its consequences. For one thing, we talked about the "social" anti-Semitism that was a fact of American life until well after World War II. Johnson was brought up in a milieu where social anti-Semitism was acceptable. But by the time he went to Harvard College in the 1920s, as the cliché used to have it, some of his best friends were Jewish: Eddie Warburg and Lincoln Kirstein to name two who became particularly close to him. Of course, there is a wide chasm between social anti-Semitism and Hitler's virulent strain of hate. But Johnson was not alone in failing to recognize the horror of Hitler's obsession. Many Americans, in fact, did not take in the full magnitude of Hitler's hatred until the late 1930s, and even some Jews in Germany clung too long to the belief that Hitler's talk was just that! But when Johnson did come to, seeing Hitler for the evil he was, he quickly turned away from politics. Johnson's misadventures of the 1930s need to be seen against a broader canvas of the times and in light of all sorts of demons that plagued him then. Many of his Jewish friends like Kirstein and Warburg, who knew of his personal agonies, remained loyal to him despite whatever misgivings they may have had about his political leanings.

In the 1970s and 1980s, Johnson and I talked about those years. Some conversations form an oral history he and I made for Columbia University. I frankly wish I had also taken the opportunity to discuss the topic with his Harvard friends. But now it's too late; they're all gone. I do remember one conversation with Johnson in which he said to me, "I have paid for this in so many ways." One way he paid was with the Congregation Kneses Tifereth Israel Synagogue in Port Chester, New York, which he designed in 1956. For this project, with its limpid, light-filled, Soane-inspired sanctuary space, he gave up his fee because he was so grateful for the support the congregants of that synagogue showed him.

But why go on? In reckoning a life's worth, there are bound to be so very many aspects to consider, not all of them admirable—for me,

Johnson's worth as an architect, as a mentor, and as a friend more than outweigh a stupid, repugnant misalliance he long ago repented.

The culture of architecture is vastly diminished because Johnson is no longer here to spur us along with the example of his work, his intellectual curiosity, and the élan of his very being. I miss him very much. ■

PHILIP JOHNSON/Essay by Sorkin (continued from page 183)

and Johnson was unable to draw two parallel lines, neither proposed any purpose for his project other than self-entertainment (in Meyer's case, what used to be called self-abuse). Both were flacks for the kind of confident American styles of hyper-consumption that were spawned by postwar prosperity and that morphed over the succeeding years into the unsustainable Bushian greed ravaging the planet today.

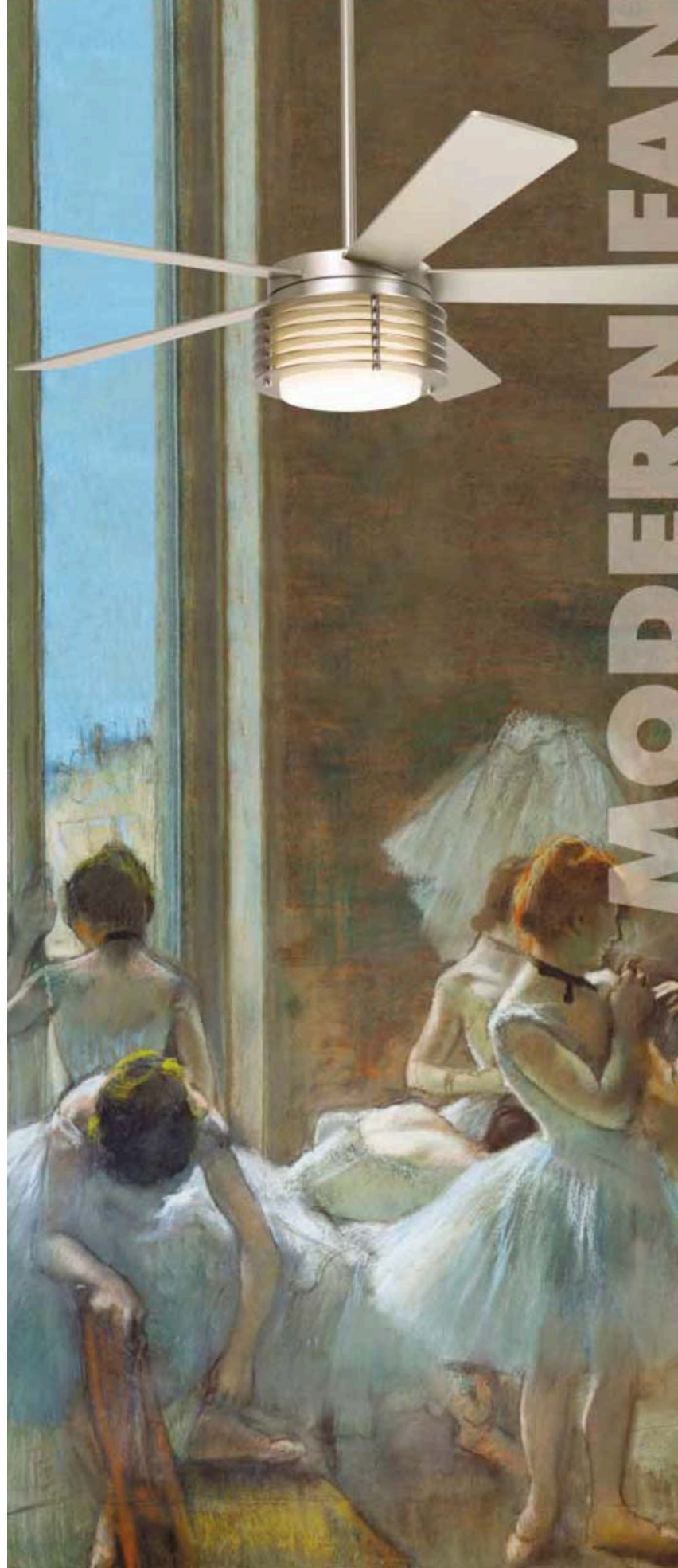
Both men had, to put it mildly, problematic politics. Meyer floundered on his "Playboy Philosophy" approach to women. If he was less self-conscious than Hugh Hefner, who made endless claims to be an avatar of liberation, Meyer nonetheless shared the same stupid core of unremitting objectification, never mind efforts to invent him as a kind of proto-feminist. Johnson, whose writing is vastly overrated by his coterie of sycophants, was purer in his evil—although, like Meyer, he did contribute, via his utter cynicism, to the anything-goes assault on the era's hypocritical Puritanism. The generation of his Postmodern admirers (themselves using Johnson to justify a social indifference that pollutes the profession to this day) worked hard at ignoring (or excusing) the fact that Johnson was an out-and-out Nazi. This was not the youthful indiscretion that many suggest, but a dedication of years, and one for which Johnson never fully accounted.

Johnson's fascination with fascism deeply informed his work. Just as Hitler's vision for the world was deeply couched in an aesthetic vision of uniforms, redemptive violence, and racial purity (and just as Walt Disney's seemingly benign project occluded his own racism and anti-Semitism), so Johnson's emptily aestheticized world view conceals a politics of privilege and indifference. (For a discussion of Disney's preju-

JOHNSON DID CONTRIBUTE, VIA UTTER CYNICISM, TO THE ERA'S ANYTHING-GOES ASSAULT ON HYPOCRITICAL PURITANISM.

ices, read Richard Schickel's *The Disney Version*, published in 1997 by Ivan R. Dee.) In a life of nearly a century, Johnson never interested himself in any of the registers through which architecture and its philosophy can help enfranchise; never showed much, if any, concern with housing the poor, with the environment, with the fate of cities. His own philosophy was rooted in a school-boy Nietzscheanism of supermen and the will to power. Indeed, his major contribution to the intellectual history of architecture is probably his early, largely successful effort to introduce Modernism to the United States (via the famous 1932 Museum of Modern Art *Modern Architecture* show) in a way that thoroughly sheared it of its originating commitment to social betterment, reducing its content to nothing but form.

My only regret over Johnson's shuffle from the coil is that he never wrote an autobiography (unlike Meyer, who left *A Clean Breast*, published in 1992). How fascinating it might have been to read his own account of his meetings with Kingfish Huey Long or Father Coughlin, his ride into Poland following the Wehrmacht, his appreciation of the décor at the Nuremberg rallies, his real opinion of the younger generation of architects who devoted so much time sucking up to him, his take on the so-called sexual revolution. Unfortunately, all that's left is his mediocre, superficial body of work and his lavish contribution to the politics of narcissism. The end of an era, let us hope. ■



Edgar Degas, *Dancers at Rest* 1884-1885
Musée d'Orsay, Paris, France

www.modernfan.com

TLFeBOOK

CIRCLE 337 ON READER SERVICE CARD OR GO TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/



AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

Program title: **"Born Again: A New Skin Offers a Fresh Start," Architectural Record (05/05, page 261).**

05EDITA

AIA/CES Credit: This article will earn you one AIA/CES LU hour of health, safety, and welfare credit. (Valid for credit through May 2007.)

Directions: Select one answer for each question in the exam and completely circle appropriate letter. A minimum score of 70% is required to earn credit. Take this test online at <http://archrecord.construction.com/continuing/default.asp>

- | | | | | | | | | | |
|----|---|---|---|---|-----|---|---|---|---|
| 1. | a | b | c | d | 6. | a | b | c | d |
| 2. | a | b | c | d | 7. | a | b | c | d |
| 3. | a | b | c | d | 8. | a | b | c | d |
| 4. | a | b | c | d | 9. | a | b | c | d |
| 5. | a | b | c | d | 10. | a | b | c | d |

Last Name _____ First Name _____ Middle Initial or Name _____

Firm Name _____

Address _____ City _____ State _____ Zip _____

Tel. _____ Fax _____ E-mail _____

AIA ID Number _____ Completion date (M/D/Y): _____

Check one: ☐ \$10 Payment enclosed. (Make check payable to *Architectural Record* and mail to: Architectural Record/Continuing Education Certificate, PO Box 682, Hightstown, NJ 08520-0682.) For customer service, call 877/876-8093.

Charge my: ☐ Visa ☐ Mastercard ☐ American Express **Card#** _____

Signature _____ **Exp. Date** _____

Check below:

☐ **To register for AIA/CES credits:** Answer the test questions and send the completed form with questions answered to above address, or fax to 609/426-5592.

☐ **For certificate of completion:** As required by certain states, answer test questions, fill out form above, and mail to above address, or fax to 609/426-5592. Your test will be scored. Those who pass with a score of 70% or higher will receive a certificate of completion.

Material resources used: Article: This article addresses issues concerning health and safety.

I hereby certify that the above information is true and accurate to the best of my knowledge and that I have complied with the AIA Continuing Education Guidelines for the reported period.

Signature _____ **Date** _____

Don't Do It Half-Grassed!

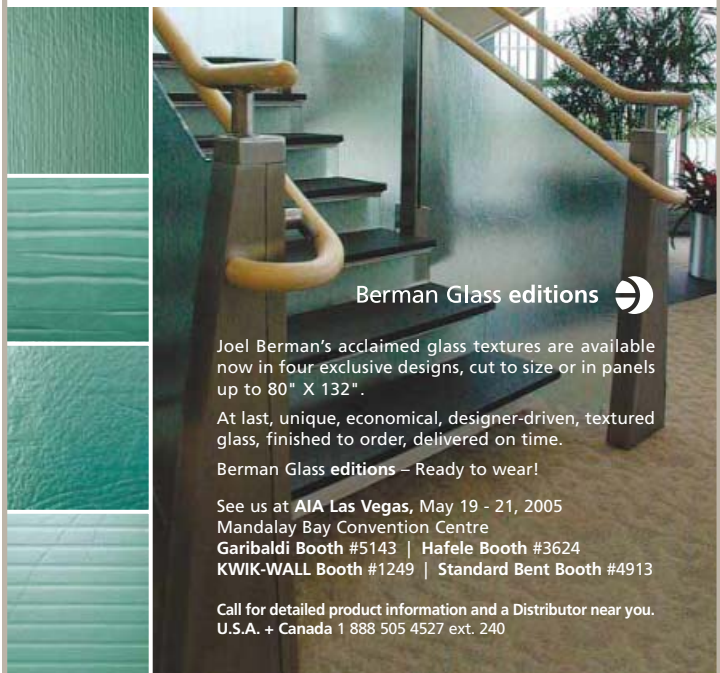


Grasspave2 (right) has 100% grass coverage, 5721 psi compressive strength, 92% void space for the healthiest root zone, and is made from 100% recycled plastic. Gravelpave2 (not shown) is beautiful too!

800-233-1510
invisiblestructures.com



Prêt-à-Porter



Berman Glass editions

Joel Berman's acclaimed glass textures are available now in four exclusive designs, cut to size or in panels up to 80" X 132".

At last, unique, economical, designer-driven, textured glass, finished to order, delivered on time.

Berman Glass editions – Ready to wear!

See us at AIA Las Vegas, May 19 - 21, 2005
Mandalay Bay Convention Centre
Garibaldi Booth #5143 | Hafele Booth #3624
KWIK-WALL Booth #1249 | Standard Bent Booth #4913

Call for detailed product information and a Distributor near you.
U.S.A. + Canada 1 888 505 4527 ext. 240

www.bermanglasseditions.com | info@bermanglass.com



Rakks wall-mounted shelving at Christine Desirée Collection, Sarasota, FL Interior Design: Christine Desirée

SUPPORTING SPATIAL EFFECTS



Rakks Bracket



Rakks on Pole



Universal Bracket



Aria Bracket

We play a supporting role in interiors that create harmony between decor and architecture. With strong, innovative shelving systems that meet the demands of the world's top designers. Rakks. The choice for new and exciting shelving solutions. Visit us at www.rakks.com or call for a free catalog.

Rakks®

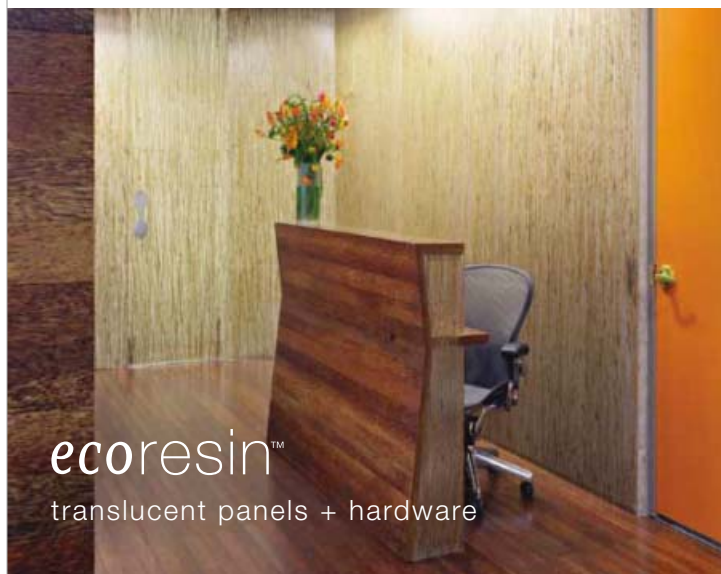
In supporting roles everywhere

Rangine Corporation | 114 Union Street | Millis, MA 02054800-826-6006 | www.rakks.com

**CIRCLE 340 ON READER SERVICE CARD
OR GO TO WWW.LEADNET.COM/PUBS/MHAR.HTML**

EXPERIENCE 3form PRODUCTS AT THE FOLLOWING 2005 TRADESHOWS

HD 2005	LAS VEGAS, NEVADA	05-07 MAY 2005
ICFF	NEW YORK, NEW YORK	14-17 MAY 2005
AIA	LAS VEGAS, NEVADA	19-21 MAY 2005
NEOCON	CHICAGO, ILLINOIS	13-15 JUN 2005



ecoresin™

translucent panels + hardware

3form®

MATERIALSOLUTIONS

samples: 3-form.com / 800.726.0126

**CIRCLE 342 ON READER SERVICE CARD
OR GO TO WWW.LEADNET.COM/PUBS/MHAR.HTML**

ARCHITECTURAL TRAINING AND RESEARCH PROGRAMS

RAFAEL VIÑOLY ARCHITECTS

An independent initiative to advance the craft of architecture through training and research

ARCHITECTURAL TRAINING

This course aims to develop the operational and intellectual instruments that are the basis of the professional practice of architecture. Without assuming the status of a formal architectural education, these classes are addressed to those involved in education, or those already in practice, who find a significant gap between the character of the formative instruction and the requirements of the professional field. The course is designed around the idea that architectural know-how is a conveyable body of knowledge rather than an intuitive ability that only develops with experience. Duration of the course is six months starting in September of 2005. Tuition is free.

RESEARCH FELLOWSHIP

Rafael Viñoly Architects is offering fellowships to research ideas relevant to the practice of architecture and construction. This research is to be undertaken within the firm's New York City office but independent from the demands of any particular project. In addition to financial support of up to \$60,000 RVA will provide equipment and materials identified by the applicants' proposal. Terms may last from four to twelve months starting in September of 2005.

For applications and more information, visit www.rvatr.com

**CIRCLE 341 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/**

**Go With The Best Choice in
Anti-Slip Applications . . .**

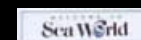
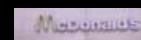


Slip Tech

ADA requires a COF of at least 0.6 **wet**. Slip Tech, since 1986, has exceeded these guidelines on ceramic tile and stone floors. Send us your sample and we'll test treat your material for free.

www.sliptech.com

Telephone: 1 (800) NO SLIPØ (1-800-667-5470) • E-Mail: brian@sliptech.com



**CIRCLE 343 ON READER SERVICE CARD
OR GO TO WWW.LEADNET.COM/PUBS/MHAR.HTML**

Program title: **"Factors for Achieving Water Conservation Excellence," (05/05, page 284)**

05SP0NN

AIA/CES Credit: This article will earn you one AIA/CES LU hour of health, safety, and welfare credit. (Valid for credit through May 2007.)

Directions: Select one answer for each question in the exam and completely circle appropriate letter. A minimum score of 70% is required to earn credit. Take this test online at <http://archrecord.construction.com/continuing/default.asp>

- | | | | | | | | |
|------|---|---|---|-------|---|---|---|
| 1. a | b | c | d | 6. a | b | c | d |
| 2. a | b | c | d | 7. a | b | c | d |
| 3. a | b | c | d | 8. a | b | c | d |
| 4. a | b | c | d | 9. a | b | c | d |
| 5. a | b | c | d | 10. a | b | c | d |

Last Name _____ First Name _____ Middle Initial or Name _____

Firm Name _____

Address _____ City _____ State _____ Zip _____

Tel. _____ Fax _____ E-mail _____

AIA ID Number _____ Completion date (M/D/Y): _____

Check one: ☐ \$10 Payment enclosed. (Make check payable to *Architectural Record* and mail to: Architectural Record/Continuing Education Certificate, PO Box 682, Hightstown, NJ 08520-0682.) For customer service, call 877/876-8093.

Charge my: ☐ Visa ☐ Mastercard ☐ American Express **Card#** _____

Signature _____ **Exp. Date** _____

Check below:

☐ **To register for AIA/CES credits:** Answer the test questions and send the completed form with questions answered to above address, or fax to 609/426-5592.

☐ **For certificate of completion:** As required by certain states, answer test questions, fill out form above, and mail to above address, or fax to 609/426-5592. Your test will be scored. Those who pass with a score of 70% or higher will receive a certificate of completion.

Material resources used: Article: This article addresses issues concerning health and safety.

I hereby certify that the above information is true and accurate to the best of my knowledge and that I have complied with the AIA Continuing Education Guidelines for the reported period.

Signature _____ **Date** _____



HEWI

SLEEK. CLEAN. SAFE.

Bath accessories made from Ultramid (nylon) have a sleek look and they stay clean and germ-free. ADA compliant where applicable and available in a variety of colors.

hafele.com
1-800-423-3531

HÄFELE
ANSWERS

Celebrate Building Safety Week

May 8-14, 2005



Community resources to help you celebrate Building Safety Week:

- Posters
- Stickers
- Coloring books
- and much more!

First observed in 1980, Building Safety Week raises the general public's awareness about the importance of safety in the built environment.

Mark your calendar today to celebrate Building Safety Week 2005!



www.iccsafe.org/foundation

Visit www.iccsafe.org/BSW for details

Program title: "Greater Vision: Alternate Window Materials in Commercial Buildings," (05/05, page 293)

05SPONM

AIA/CES Credit: This article will earn you one AIA/CES LU hour of health, safety, and welfare credit. (Valid for credit through May 2007.)

Directions: Select one answer for each question in the exam and completely circle appropriate letter. A minimum score of 70% is required to earn credit. Take this test online at <http://archrecord.construction.com/continuing/default.asp>

- | | | | | | | | | | |
|------|---|---|---|---|-------|---|---|---|---|
| 1. a | b | c | d | e | 6. a | b | c | d | e |
| 2. a | b | c | d | e | 7. a | b | c | d | e |
| 3. a | b | c | d | e | 8. a | b | c | d | e |
| 4. a | b | c | d | e | 9. a | b | c | d | e |
| 5. a | b | c | d | e | 10. a | b | c | d | e |

Last Name First Name Middle Initial or Name

Firm Name

Address City State Zip

Tel. Fax E-mail

AIA ID Number Completion date (M/D/Y):

Check one: ☐ \$10 Payment enclosed. (Make check payable to *Architectural Record* and mail to: Architectural Record/Continuing Education Certificate, PO Box 682, Hightstown, NJ 08520-0682.) For customer service, call 877/876-8093.

Charge my: ☐ Visa ☐ Mastercard ☐ American Express **Card#**

Signature **Exp. Date**

Check below:

☐ **To register for AIA/CES credits:** Answer the test questions and send the completed form with questions answered to above address, or fax to 609/426-5592.

☐ **For certificate of completion:** As required by certain states, answer test questions, fill out form above, and mail to above address, or fax to 609/426-5592. Your test will be scored. Those who pass with a score of 70% or higher will receive a certificate of completion.

Material resources used: Article: This article addresses issues concerning health and safety.

I hereby certify that the above information is true and accurate to the best of my knowledge and that I have complied with the AIA Continuing Education Guidelines for the reported period.

Signature **Date**



800 NORTH CAPITOL, WASHINGTON, DC

Dedicated to the quality design, manufacture and installation of architectural cast metal ornament.



1(800)225-1414
www.historicalarts.com

HISTORICAL ARTS & CASTING ■ INC.

The Best Way to Raise...

Visit our website or order our full-color catalog to see all the different configurations of MPBs and many other components.

MPB's

Shown here is MPB10. Our most popular diameter at 1 1/4". Available in 10 stock lengths from 1/4" to 12". Custom lengths available to 24".

Series also offers variations of MPB's – curved 180°, angled 30°, or with 90° angle.



"FINE ARCHITECTURAL HARDWARE FOR YOUR FINE FURNITURE"®

Doug Mockett & Company, Inc. • Manhattan Beach, CA • 800.523.1269

MOCKETT
DOUG MOCKETT & COMPANY, INC.
www.mockett.com

Program title: **"The Art of Product Research and Selection," (05/05, page 299)**

05SPONO

AIA/CES Credit: This article will earn you one AIA/CES LU hour of health, safety, and welfare credit. (Valid for credit through May 2007.)

Directions: Select one answer for each question in the exam and completely circle appropriate letter. A minimum score of 70% is required to earn credit. Take this test online at <http://archrecord.construction.com/continuing/default.asp>

- | | | | | | | | | | |
|------|---|---|---|---|-------|---|---|---|---|
| 1. a | b | c | d | e | 6. a | b | c | d | e |
| 2. a | b | c | d | e | 7. a | b | c | d | e |
| 3. a | b | c | d | e | 8. a | b | c | d | e |
| 4. a | b | c | d | e | 9. a | b | c | d | e |
| 5. a | b | c | d | e | 10. a | b | c | d | e |

Last Name First Name Middle Initial or Name

Firm Name

Address City State Zip

Tel. Fax E-mail

AIA ID Number Completion date (M/D/Y):

Check one: ☐ \$10 Payment enclosed. (Make check payable to *Architectural Record* and mail to: Architectural Record/Continuing Education Certificate, PO Box 682, Hightstown, NJ 08520-0682.) For customer service, call 877/876-8093.

Charge my: ☐ Visa ☐ Mastercard ☐ American Express Card#

Signature Exp. Date

Check below:

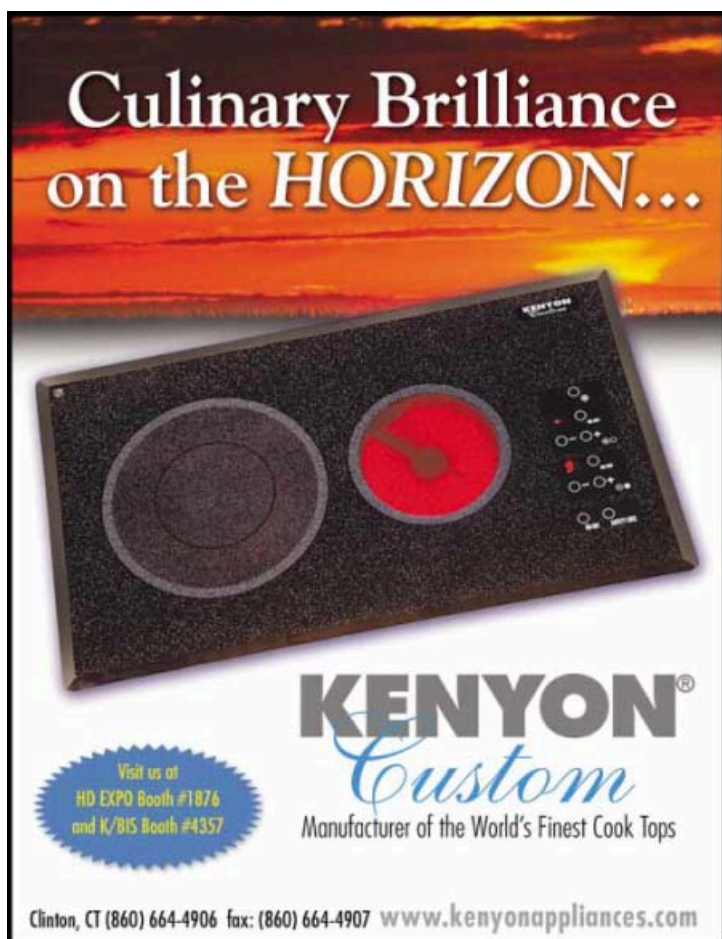
☐ **To register for AIA/CES credits:** Answer the test questions and send the completed form with questions answered to above address, or fax to 609/426-5592.

☐ **For certificate of completion:** As required by certain states, answer test questions, fill out form above, and mail to above address, or fax to 609/426-5592. Your test will be scored. Those who pass with a score of 70% or higher will receive a certificate of completion.

Material resources used: Article: This article addresses issues concerning health and safety.

I hereby certify that the above information is true and accurate to the best of my knowledge and that I have complied with the AIA Continuing Education Guidelines for the reported period.

Signature Date



Culinary Brilliance
on the **HORIZON...**

KENYON
Custom
Manufacturer of the World's Finest Cook Tops

Visit us at
HD EXPO Booth #1876
and I/BIS Booth #4357

Clinton, CT (860) 664-4906 fax: (860) 664-4907 www.kenyonappliances.com



Real Light.
Real Nice.

Heat And Excessive Sunlight
Can Be Harsh And Unappealing.

People are drawn to the diffused natural light enhanced by a Major Industries Guardian 275® Translucent Daylighting System.

Call or e-mail today for your FREE daylighting catalog.
knelson@majorskylights.com

MAJOR INDUSTRIES

Toll Free 888-SkyCost
www.majorskylights.com



“Chicago System”

P&P Artec is proud to introduce its first railing system with a flat bar stainless steel baluster.

The “Chicago System” has a unique flat bar baluster instead of our customary round or oval tubes used in the Double Baluster, Modesto and Munich systems. Artec has built a reputation on 100% seamless handrail tubes, and our newest system is no exception. We weld and grind in the field to provide our customers a handrail tube without any visible joints and connections.

Artec is a national and international full service railing company. We work with you from the design stage until our installation teams complete the project.



700 Creel Drive, Wood Dale, IL 60191
Tel: 800-927-7346 • Fax: 630-860-5913
Web site: <http://www.artec-rail.com>

Please contact us for more information.
Binder, Samples, autoCAD-R14 details.

CIRCLE 000 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

STOP BY AND SEE US AT THE AIA EXPO 2005 BOOTH 3642

CIRCLE 350 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

Available through the McGraw-Hill Construction Bookstore

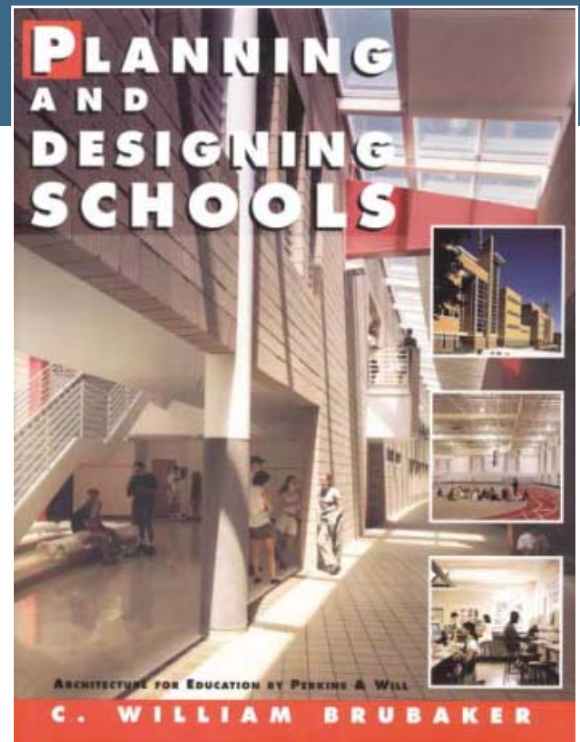
Planning and Designing Schools C. William Brubaker

In *Planning and Designing Schools*, award-winning architect William Brubaker shares his knowledge and expertise, gathered over thirty years and more than 200 school projects, to show how to create practical, yet pleasing answers to the challenges of school design. This essential resource covers every phase of school design, giving complete information on such topics as master planning, energy efficiency, indoor air quality, and much more – and includes 22 informative case studies.



www.books.construction.com

At www.books.construction.com, you can choose from a wide selection of titles in architecture, construction, and engineering – from the brightest, most respected minds in the field. Our comprehensive online bookstore offers a special **20% discount, free shipping**, unparalleled customer service, and a host of other great features.



1997 • ISBN: 0-07-049405-3
240 pages • 200 illustrations • Hardcover

McGraw-Hill Construction
Bookstore Price: \$51.96

TO ORDER OR TO SEE OTHER GREAT TITLES, VISIT
www.books.construction.com

construction success starts with the
construction.com bookstore

DDJ32

McGraw Hill
CONSTRUCTION
Dodge
Sweets
Architectural Record
ENR
Regional Publications

Find us online at www.construction.com

connecting people_projects_products

The McGraw-Hill Companies

TlFe800H

Get
INSPIRED

for only

\$1.23

a week.

Subscribe Today and SAVE up to 45%

**McGraw Hill
CONSTRUCTION**

**Architectural
Record**

Send me 12 issues of Architectural Record for only \$64.
That's only \$1.23 per week and I'll **SAVE \$53 OFF** the cover price.

☐ **U.S.** 12 issues at ~~\$117.00~~ **NOW \$64**

CAR38DBI

☐ **Canada/Mexico** 12 issues at ~~\$132.00~~ **NOW \$79**

CAR38CBI
CAR38MBI

*Save \$53.00
off the cover price*

☐ **Outside North America** 12 issues at ~~\$199.00~~ **NOW \$149**

☐ Payment enclosed

Charge my:

☐ AmEx

☐ Mastercard

☐ Visa

☐ Discover

☐ Bill me

Card No.

Exp. Date

Signature

Are you a registered architect? ☐ Yes ☐ No

Name

Title

Firm Name

Mailing Address

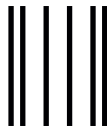
City/State/Zip Code

Country

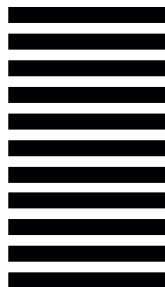
E-mail

For faster service, call: **1-877-876-8093** (outside the U.S., 609-426-7046), fax your order to 212-904-3150 or
visit **www.architecturalrecord.com**

1-877-876-8093



NO POSTAGE
NECESSARY IF
MAILED IN THE
UNITED STATES



BUSINESS REPLY MAIL

FIRST-CLASS MAIL PERMIT NO. 42 HIGHTSTOWN NJ

POSTAGE WILL BE PAID BY ADDRESSEE

McGraw Hill
CONSTRUCTION Architectural
Record

P.O. BOX 564
HIGHTSTOWN NJ 08520-9890



Get
INSPIRED

for only

\$1.23

a week.

Circle

fax

OR

mail

CIRCLE THE NUMBER
on the card which corresponds to the
number under each advertisement,
product, or literature item for which
you want more information.

413-637-4343
FAX TODAY!
To speed your inquiry,
please FAX this card.

Go to www.leadnet.com/pubs/mhar.html
to send your request electronically.

web

ARCHITECTURAL RECORD
READER SERVICE DEPARTMENT
PO BOX 5412
PITTSFIELD, MA 01203-9974
FILL IN YOUR NAME AND ADDRESS
BELOW—OR
you can use the label on the
magazine wrapper.

READER SERVICE CARD

Printed on Recycled Paper

ARCHITECTURAL RECORD READER SERVICE CARD

INFORMATION REQUESTED

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180
181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200
201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220
221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240
241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260
261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280
281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300

(For Listing of Advertisers Refer to Ad Index)

PLEASE PRINT OR USE YOUR PEEL-OFF ADDRESS LABEL

Name _____

Title _____

Company (required) _____

Address _____

City/State _____

Zip _____

Country (if other than U.S.) _____

Telephone () _____

Fax () _____

☐ (31) PLEASE CONTACT ME RIGHT AWAY

TO RECEIVE INFORMATION PLEASE ANSWER ALL QUESTIONS

1. What is your job function? (check one)

- ☐ (1) Architect
- ☐ (2) Engineer
- ☐ (3) Designer
- ☐ (4) Specification Writer
- ☐ (5) Interior Designer
- ☐ (6) Contractor or Builder
- ☐ (7) Lighting Designer
- ☐ (8) Other _____

2. In what type of organization do you work?

- ☐ (9) Architectural or A/E Firm
- ☐ (10) Commercial, Industrial or Institutional
- ☐ (11) Contractor or Builder
- ☐ (12) Government Agency
- ☐ (13) Interior Design
- ☐ (14) Lighting Design
- ☐ (15) Other _____

3. Building Types you are currently working on?

- ☐ (16) Commercial
- ☐ (17) Educational
- ☐ (18) Healthcare
- ☐ (19) Industrial
- ☐ (20) Multi-Family Residential
- ☐ (21) Single-Family Residential
- ☐ (22) Other _____

4. Reason for Inquiry?

- ☐ (23) Current Planning
- ☐ (24) Future Planning
- ☐ (25) Both

5. Are you currently a subscriber?

- ☐ (26) Yes ☐ (27) No

CHECK HERE TO START A SUBSCRIPTION

- ☐ (28) 1 year \$64.00 (Domestic)
- ☐ (29) 1 year \$79.00 (Canada/Mexico)
- ☐ (30) 1 year \$199.00 (International: outside of North America)

CAR37/DRS/CAR37/CRS/CAR37/MRS/CAR37/FRS

May 2005 Issue

The McGraw-Hill Companies



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

<http://archrecord.construction.com/ReaderService.asp>

BUSINESS REPLY MAIL

FIRST-CLASS MAIL PERMIT NO 157 PITTSFIELD MA

POSTAGE WILL BE PAID BY ADDRESSEE

McGraw Hill
CONSTRUCTION Architectural
Record

PO BOX 5412
PITTSFIELD MA 01203-9974

TLFe800H



ARCHITECTURAL
RECORD

Circle

CIRCLE THE NUMBER on the card which corresponds to the number under each advertisement, product, or literature item for which you want more information.

fax

**413-637-4343
FAX TODAY!**
To speed your inquiry,
please FAX this card.

OR

mail

ARCHITECTURAL RECORD
READER SERVICE DEPARTMENT
PO BOX 5412
PITTSFIELD, MA 01203-9974
FILL IN YOUR NAME AND ADDRESS
BELOW—OR
you can use the label on the
magazine wrapper.

web

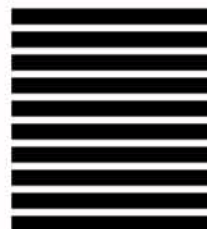
Go to www.leadnet.com/pubs/mhar.html
to send your request electronically.

READER SERVICE CARD

The McGraw-Hill Companies



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES



<http://archrecord.construction.com/ReaderService.asp>

BUSINESS REPLY MAIL

FIRST-CLASS MAIL PERMIT NO 157 PITTSFIELD MA

POSTAGE WILL BE PAID BY ADDRESSEE

**McGraw_Hill
CONSTRUCTION** Architectural
Record

PO BOX 5412
PITTSFIELD MA 01203-9974



ARCHITECTURAL RECORD READER SERVICE CARD

INFORMATION REQUESTED

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180
181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200
201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220
221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240
241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260
261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280
281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300

(For Listing of Advertisers Refer to Ad Index)

PLEASE PRINT OR USE YOUR PEEL-OFF ADDRESS LABEL

Name _____

Title _____

Company (required) _____

Address _____

City/State _____ Zip _____

Country (if other than U.S.) _____

Telephone () _____ Fax () _____

☐ (31) PLEASE CONTACT ME RIGHT AWAY

TO RECEIVE INFORMATION PLEASE ANSWER ALL QUESTIONS

1. What is your job function? (check one)

- ☐ (1) Architect
- ☐ (2) Engineer
- ☐ (3) Designer
- ☐ (4) Specification Writer
- ☐ (5) Interior Designer
- ☐ (6) Contractor or Builder
- ☐ (7) Lighting Designer
- ☐ (8) Other _____

2. In what type of organization do you work?

- ☐ (9) Architectural or A/E Firm
- ☐ (10) Commercial, Industrial or Institutional
- ☐ (11) Contractor or Builder
- ☐ (12) Government Agency
- ☐ (13) Interior Design
- ☐ (14) Lighting Design
- ☐ (15) Other _____

3. Building Types you are currently working on?

- ☐ (16) Commercial
- ☐ (17) Educational
- ☐ (18) Healthcare
- ☐ (19) Industrial
- ☐ (20) Multi-Family Residential
- ☐ (21) Single-Family Residential
- ☐ (22) Other _____

4. Reason for Inquiry?

- ☐ (23) Current Planning
- ☐ (24) Future Planning
- ☐ (25) Both

5. Are you currently a subscriber?

- ☐ (26) Yes ☐ (27) No

CHECK HERE TO START A SUBSCRIPTION

- ☐ (28) 1 year \$64.00 (Domestic)
- ☐ (29) 1 year \$79.00 (Canada/Mexico)
- ☐ (30) 1 year \$199.00 (International: outside of North America)

CAR37DRS/CAR37CRS/CAR37MRS/CAR37FRS

May 2005 Issue

ARCHITECTURAL
RECORD

TLFe800H



SOLID IS JUST BETTER.

The Koreteck™ Panelized Building System replaces metal studs, insulation and exterior sheathing with the superior performance of a solid noncavity wall. The proven benefits of the system include faster installation, higher R-Values, less waste, better sound insulation and mold resistance. Discover more about the solid core, solid system and solid thinking of Koreteck by calling or visiting us on the Web today.



KORETECK™
PANELIZED BUILDING SYSTEM

SOLID THINKING™

866-877-8335 • www.koreteck.com

Come see us at AIA Booth 3214

A BlueScope Steel Company

CIRCLE 351 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

TlFe800H

©2005 Koreteck.

Master Specification & Product Selection Systems

1 General data



Arcom

MASTERSPEC®, the preeminent master specification and product selection system, is available in full-length, short-form, outline, and small project formats for projects of any size, type, phase, or complexity. ARCOM devotes over 25,000-hr. to updating MASTERSPEC each year and developing mini-research papers on each specification topic. MASTERSPEC Review Committees perform regular, extensive peer reviews unique in the industry. Now available, the most comprehensive LEED reference and specification tool available.

www.arcomnet.com

| Circle Reader Service #150

Metal Surfacing

5 Metals



Gage Corporation, Intl.

GageMetal. An innovative collection of 18 new designs suitable for walls, elevators, and column covers. Standard sizes 48-in. by 96/120-in. with available thicknesses from .025-in. aluminum to 16-ga. stainless steel. Custom design and collaboration is available. All GageMetal designs are available in sheet form for direct application to the job site substrate. They can also be panelized for demountable use with Z-bar clips or the Gage extrusion system. Fax number 608-269-7622 Email gage@centurytel.net

800-786-4243
www.gageverticalsurfacing.com

| Circle Reader Service #153

Trench Drainage Systems

2 Site construction



ACO Polymer Products, Inc.

ACO Polymer Products, Inc. manufactures modular, precast polymer concrete and fiberglass trench drainage systems. ACO supplies products for any surface drainage need from residential to heavy industrial applications. Products are available in 4-in., 8-in., and 12-in. internal widths with a range of lockable grates to suit; a variety of neutral and pre-sloped depths are available to ensure excellent hydraulic performance. A full range of catch basins and accessories provide a complete drainage solution. ACO Drain products are produced and load tested to DIN 19580, the only standard specifically for trench drains.

440-285-7000
www.acousa.com
AIA booth 3515

| Circle Reader Service #151

Pre-Engineered Railings

5 Metals



Handrail Design Inc.

inox™ Stainless Railing System: Manufactured of corrosion-resistant stainless steel, inox is ideal for interior or exterior applications in commercial and residential facilities. Infill materials are available in perforated stainless steel, tempered glass, and stainless steel rods. Handrails are available in wood/stainless, stainless, or colored nylon. Curved rails and custom designs are available. Complete supply and installation service are available throughout North America, which includes inox, CIRCUM™, HEWI® Nylon, and d line™ railings. Email info@hdirailings.com

717-285-4088
www.hdirailings.com

| Circle Reader Service #154

Commercial Grade Outdoor Furniture

2 Site construction



Modern Outdoor

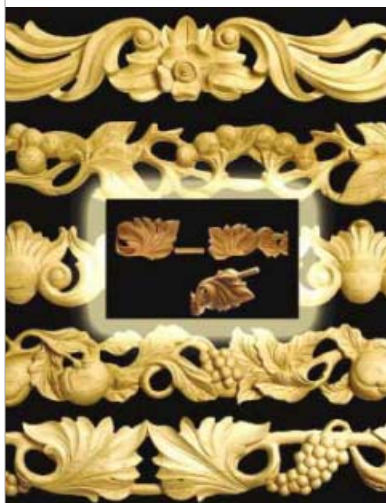
High style, clean-lined simplicity, short lead times, environmentally conscious materials—these are the attributes of Modern Outdoor—a producer of top quality outdoor furniture with a definitive modern aesthetic. The Modern Outdoor Collections are commercial grade products designed for the restaurant, hospitality, and resort industries, with an aesthetic that is perfect for a residential client's backyard setting. The entirety of the Collection is made from Ipe, Electropolished Stainless Steel, and Natural Composite materials. Modern Outdoor offers attractive pricing.

818-838-7060
www.modernoutdoor.com

| Circle Reader Service #152

Wood Carved Pierced Mouldings

6 Wood & plastics



Architctural Products by Outwater, LLC

Outwater's Wood Carved Pierced Mouldings effortlessly and seamlessly fasten together via wooden dowels, which when 'glued' and inserted into the predrilled opposing holes of the adjacent Wood Carved Pierced Mouldings to be adhered, create consistent, uninterrupted linear runs of any desired length. Outwater's 2-ft.-long Wood Carved Pierced Mouldings are offered in Hard Maple, Cherry and Oak in five different design profiles and are pre-sanded, unfinished and ready to be stained or painted.

800-835-4400
www.outwater.com

| Circle Reader Service #155

Architectural Columns, Balustrades & Mouldings

6 Wood & plastics



Melton Classics, Inc.

Melton Classics provides the design professional with the most comprehensive selection of quality architectural products in the industry, including architectural columns, balustrades, moldings, cornices, and a wide array of architectural elements. Architectural columns are available plain or fluted, load-bearing or column covers, round or square in fiberglass, fiberglass/marble composite, synthetic stone, cast stone, GFRC, and wood for paint or stain. Melton Classics offers a maintenance-free balustrade product ideal for any application.

www.meltonclassics.com

| Circle Reader Service #156

Rainscreen Systems

7 Thermal & moisture protection



Terraclad™ Architectural Terra Cotta Rainscreen System®

Available in:
6 standard profiles. 6 different widths 8"-16" in lengths from 12"-60" as well as custom designs per the architect's specifications. Also available are 13 through body colors, glazed finishes and custom body colors, sizes and shapes upon request.

Boston Valley Terra Cotta Inc.

Boston Valley Terra Cotta, leader in the design and manufacturing of Architectural Terra Cotta, is manufacturing Terraclad™, Architectural Terra Cotta Rainscreen System. Produced in the U.S. in their Orchard Park, NY, factory, this system is available for new design and retrofit. Boston Valley Terra Cotta offers six standard profiles, six different widths, 8-in. to 16-in., lengths from 12-in. to 60-in., as well as custom designs per the architect's specifications. Also available are 13 through-body colors, custom colors, glazed finishes, and custom sizes and shapes upon request. Terraclad is a green material.

888-214-3655

www.bostonvalley.com

| Circle Reader Service #159

Wooden Return Air Grilles

6 Wood & plastics



Worth Home Products

A new standard in classic homes. Worth Home Products, a manufacturer of wooden return air grilles, provides consumers with an attractive alternative to the standard white metal grilles. Worth's computer aided design ensures high efficient air flow while concealing filters. This patent-pending product is made from paint-grade Poplar and Birch woods and discreetly blends into ceilings or walls. Its locking system provides a safe and easy installation. Over 36 standard wooden grille sizes are available for quick delivery.

www.WorthHomeProducts.com

| Circle Reader Service #157

Four Full Layers of Weather Protection

7 Thermal & moisture protection



CertainTeed Corp.

Carriage House Shingle is equally at home on Victorian, colonial and contemporary designs. With an ingenious construction that combines two full-sized base shingles, Carriage House simulates the depth of natural slate, an illusion enhanced by wide scalloped corners, a deep shadow line and an oversized 8-in. exposure. Carriage House is built to last. Thanks to premium-grade materials and the exclusive CertainTeed Super Shingle® construction, a Carriage House roof provides four full layers of weather protection once applied.

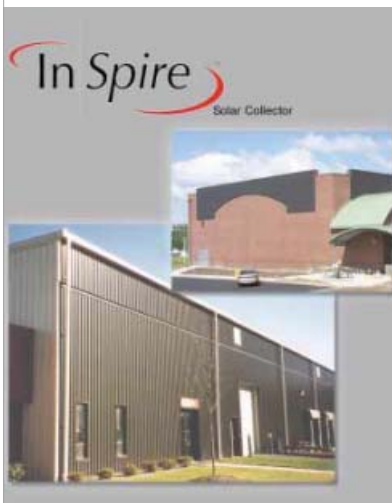
800-233-8990

www.certainteed.com

| Circle Reader Service #160

Metal Wall Cladding

7 Thermal & moisture protection



ATAS International, Inc.

ATAS International Inc. introduces the INSPIRE Wall System, a new metal wall cladding made from .032 aluminum with tiny perforations in a heat absorbing surface. The premium finish is available in sixteen standard colors. Mounted a few inches from the main wall, on preferably a southern exposure, fresh air is drawn through the perforations and directed into the building with a fan and duct system. Air space between the walls also acts as an insulator. INSPIRE Wall is environmentally friendly, because it uses clean, natural energy.

www.atas.com

| Circle Reader Service #158

Crimp-Curved Roof, Wall & Decking Panels

7 Thermal & moisture protection



Curveline

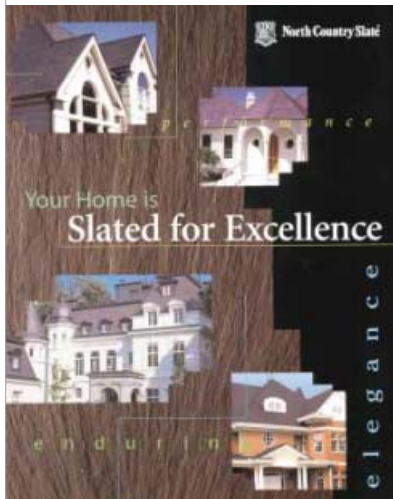
Curveline can crimp-curve metal panels in a range of profiles, substrates and finishes for structural or decorative use. Applications: roofs, walls, standard and acoustical decking, canopies, fascias, mansards, etc. Specifiers may source panels from manufacturers in 100+ factory locations and select the desired curving parameters, including simple, complex and multi-radius curves.

www.met-tile.com/curveline

| Circle Reader Service #161

Slate Roofing Brochure

7 Thermal & moisture protection



North Country Slate

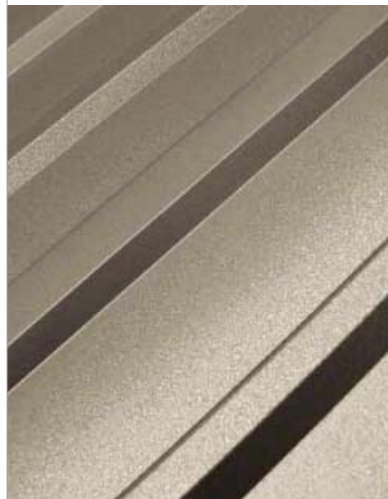
North Country Slate offers a new brochure explaining the design and performance advantages of their remarkable roofing material to your residential customers. In six glossy pages, 'Slated for Excellence' presents all the features and benefits to your client, the homeowner. Make sure you have this brochure on hand for your next discussion on slate roofing. Email info@ncslate.com

800-975-2835
www.northcountryslate.com

| Circle Reader Service #162

Aged Galvanized Panels

7 Thermal & moisture protection



Steelscape, Inc.

Architects and designers have expressed a desire for corrosion-resistant roofing and siding materials which exhibit an aged appearance. Vintage™ aged appearance is uniform across all panels and will not degrade in surface appearance or corrosion resistance for up to 20 to 30 years. The product can be used in the as-acrylic-coated condition for "low-end" building applications intended for non-warranted applications whereby "natural aging" will commence after installation. For applications requiring superior surface appearance retention and corrosion resistance a PvDF topcoat is required.

888-285-7717
www.steelscape.com

| Circle Reader Service #165

Shingle Panels

7 Thermal & moisture protection



Shakertown

Shakertown introduces its Craftsman Shingle Panel. Made from Western Red Cedar, the one-course panels feature concealed nailing and overlocking end joints for easy installation and a seamless appearance. Craftsman Shingle Panels are manufactured 8-ft.-long and available with a choice of 4-1/2-in., 7-in., and 14-in. exposures. Choose from natural, primed white or prefinished with a semi-transparent oil stain in Pasadena Green, Beach Grey, Redwood or Natural Beige.

800-426-8970
www.shakertown.com
AIA booth 3079

| Circle Reader Service #163

Fire-Rated Aluminum Doors & Windows

8 Doors & windows



Aluflam

Imagine being able to specify a fire-rated system that blends in so well with non-rated materials that you virtually can't tell them apart. Imagine the clean, rich lines of true extruded aluminum frames and large panels of clear glass. With ALUFLAM framing and VETROTECH SAINT-GOBAIN glass, this is reality. Contact them for further information. Fax number 714-899-3993 Email info@aluflam-usa.com

714-899-3990
www.aluflam-usa.com

| Circle Reader Service #166

Smoke Control for Elevator Hoistways

7 Thermal & moisture protection



Smoke Guard, Division of RectorSeal

Designed with medical, hospitality and multi-story residential applications in mind, the Smoke Guard® System is an aesthetically pleasing, space-saving alternative to traditional applications. Concealed in the ceiling or a valance, it deploys only when smoke is detected at the hoistway. The Smoke Guard System returns usable space to the owner on every floor, creating valuable space in your design. The deployed system forms a smoke- and draft-control assembly at the elevator hoistway door as required by the International Building Code (IBC).

800-574-0330
www.smokeguard.com
AIA booth 2479

| Circle Reader Service #164

Barn Door Hardware

8 Doors & windows



Crown Industrial

Crown Industrial provides a complete line of barn door hardware. Hardware includes sliding door track and trolleys, 'horse fooler' latches, cremone bolts, strap hinges and folding door hardware. Sliding door hardware comes in either 'box' or 'flat' track styles. (Flat track shown.) The trolley rides on top of a 1/4-in.-thick flat bar track. Various finishes, styles and sizes are available. Products used for barns, wineries, lofts, offices, restaurants, residential and commercial applications.

650-952-5150
www.crown-industrial.com

| Circle Reader Service #167

Glass Staircases

8 Doors & windows



Nathan Allan Glass Studios, Inc.

A spectacular four-story corporate staircase project! 80 treads and 20 landings, using Cast Glass "Checkerplate" textures (Diamondplate), with two layers of 5/8-in.-thick tempered glass. The walking surface has an exclusive "Glass Sandpaper" safety finish. The finished product is engineered. Big D Construction, Corporate Headquarters—Salt Lake City, UT.

www.nathanallan.com
AIA booth 467

| Circle Reader Service #168

Doors for Interior Architecture

8 Doors & windows



Woodfold-Marco Mfg., Inc.

Some will say that nothing is more beautiful than wood. Woodfold-Marco would agree. Woodfold custom made accordion and roll-up doors (available in hardwood and non-hardwood finishes as well) are both functional and beautiful. Woodfold-Marco has models available for use as sight, security and acoustic applications. Its solid hardwood roll-up doors coil conveniently overhead. And to assure on time completion of your projects, Woodfold-Marco has the industry's best production cycle. Fax number 503-357-7185

503-357-7181
www.woodfold.com
AIA booth 3132

| Circle Reader Service #171

Fire-Rated Frames

8 Doors & windows



Technical Glass Products

Technical Glass Products' Fireframes Hardwood Series provides an attractive fire-rated framing alternative for individual glass lites in sizes up to 31-sq.-ft. The Hardwood Series features an engineered core for dimensional stability and a thick hardwood face for unmatched beauty. The frames are available in a variety of wood species and come in complete packages for easy installation. Hardwood Series frames are available with fire ratings from 20 to 60 minutes.

888-397-3473
www.fireglass.com
AIA booth 1259

| Circle Reader Service #169

Rubber Finishing Border System

9 Finishes



Johnsonite

Johnsonite® Bolsters rePLACE® Demounting Finishing Borders System™. Company adds three profiles to first reusable, replaceable and recyclable wall base. Johnsonite, the leader in providing flooring solutions that contribute to the creation of high performance environments, is showcasing the addition of new profiles to its rePLACE® product line. rePLACE is a patented rubber finishing borders system that hangs on a track, enabling it to be easily reused, replaced or recycled. The new profiles enhance the architectural design of this unique and innovative finishing borders system. Email rtipton@johnsonite.com

800-899-8916
www.johnsonite.com

| Circle Reader Service #172

Wired Glass

8 Doors & windows



Technical Glass Products

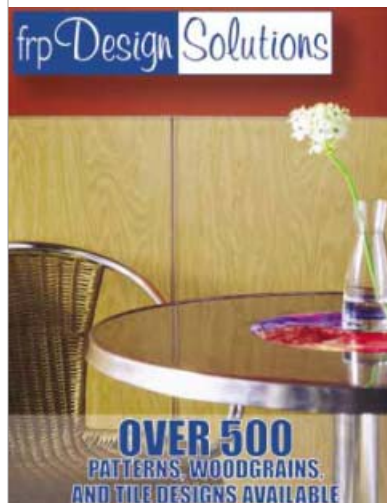
Technical Glass Products introduces Pilkington Pyroshield™ Plus—a new breed of wired glass that offers impact safety in addition to fire protection. Pilkington Pyroshield™ Plus is formed by laminating traditional wired glass with a special interlayer to another layer of clear glass. This gives it the strength to meet the impact safety standard of CPSC 16CFR1201 (Category I), without depending on a surface-applied film. It carries fire ratings up to 90 minutes in doors and up to 45 minutes in other applications.

888-397-3473
www.fireglass.com

| Circle Reader Service #170

Decorative Wall Panels

9 Finishes



Kemlite Company

frpDesign Solutions is a family of decorative wall panels that provides an alternative to traditional wall coverings such as ceramic tile, wood paneling or vinyl wall coverings. Offering both functionality and design, products in the frpDesign Solutions line are made of a moisture resistant frp panel with a decorative finish that include a myriad of colors, patterns and woodgrains as well as a tile look panel. Available with over 500 hundred choices, frpDesign Solutions is easy to install and maintain. For more information, visit Kemlite on the Web.

888-332-6377
www.frpdesignsolutions.com
AIA booth 655

| Circle Reader Service #173

Cork & Linoleum Floating Floors

9 Finishes



Nova Distinctive Floors

Nova Cork and Linoleum Floating Floors embrace design, function and environmental consciousness. In 1-in. by 3-in. 'click' (glueless) system planks, Nova Distinctive Floors' 2005 line boasts 28 designer patterns in cork and the bold 9 linoleum colors with accent tiles. Harvested from forests that meet environmental, social and economic standards, Nova Cork, Linoleum, and Underlayment products have received the "Green Spec" distinction from Building Green, Inc as well as FSC and SCS certifications and offer a 20-year residential and 10-year commercial warranty.

866-576-2458
www.novafloorings.com
AIA booth 1384

| Circle Reader Service #174

Canyon Tone Stains

9 Finishes



United Coatings

The Las Vegas Monorail required integration of precast elements for a multiple-phase construction project. Components from several casting yards came together with uniform color thanks to coatings from a single supplier. In some cases components were coated as much as a year apart and showed no visible differences. Canyon Tone Stain from United Coatings was specified for its performance and durability as well as color consistency. For more information on Canyon Tone Stain call United Coatings at (800) 541-4383 or visit us online at www.canyontonestain.com.

800-541-4383
www.canyontonestain.com

| Circle Reader Service #177

Noise Barrier Systems

9 Finishes



QUILITE Noise Barriers

The patented QUILITE® Noise Barrier System reduces noise by 60% to 80%. It is a factory-assembled panel system of clear polycarbonate blocks enclosed in noise-trapping bezels and mounted in a high strength steel frame. QUILITE® is also resistant to graffiti. QUILITE® panels are 5-in.-thick, available in modular sizes to produce walls over 30-ft.-high. QUILITE®'s light weight of 6-lb. psf permits easy handling. See their product display at the New Product & Technology Center in the AIA Show.

310-641-7701
www.quilite.com

| Circle Reader Service #175

Porcelain Floor Tiles

9 Finishes



Viva Ceramica

VIVA LIMITED EDITION is a new collection of floor coverings with exclusive distribution. The collection includes MAXI floor tiles: 12mm glazed, color-through, very large sized porcelain tile with graphics reminiscent of wood.

www.cerviva.it

| Circle Reader Service #178

Bamboo Flooring, Panels & Veneers

9 Finishes



Teragren LLC

Teragren, formerly TimberGrass, introduces SIGNATURE COLORS—Espresso, Cherry, Walnut and Charcoal. The water-based stains are applied to the flat grain natural bamboo planks to maximize durability. The 5-coat German prefinish applied to the stains is water-based, solvent-free and non-off-gassing which meets the company's mission to build a company that is environmentally, socially and economically responsible®. All Teragren bamboo products qualify for LEED™ and are ideal for both commercial and residential applications.

800-929-6333
www.teragren.com

| Circle Reader Service #176

Guaranteed Effective Silent Outdoor Bird Control

10 Specialties



Bird Barrier America

Ultrason X is the first-ever ultrasonic bird repeller for exterior use. This eliminates the need for an enclosed area for the sounds to reverberate. Unique 'silent to humans' harassments attack pest birds to leave for good, yet it's harmless to the birds, the environment and your building. Ultrason X targets pest birds with ultrasonic waves that move from speaker to speaker, giving a constant, menacing, multi-bird defense. The powerful 'Surround sound' directional speakers offer greatest all-around flexibility. Also offered is a full Bird Control product line.

310-527-8000
www.birdbarrier.com

| Circle Reader Service #179

Ceiling Fans

10 Specialties



G Squared

Enjoy art. The Cirque ceiling fan, a high performance dynamic sculpture is a Good Design Award winner. View silver and mahogany blade versions on their Web site. Includes a 50 W dimmable light and touch control system, and a remote control is available. Whisper quiet, powerful, and beautifully made, this timeless design can be used on 8-ft. ceilings or on cathedral ceilings with optional downrods up to 6-ft. long. It is also suitable for sloped ceilings. Lifetime warranty. To buy high-design architectural fans and lighting, please visit G Squared's Web site or call G Squared.

805-595-2392
www.g2art.com

| Circle Reader Service #180

Custom Stainless Steel & Copper Bath Fixtures

13 Special construction



Diamond Spas, Inc.

Diamond Spas specializes in metal plumbing fabrication. The DSI line consists of soaking baths, whirlpool baths, Japanese baths, shower pans, lavatories, kitchen sinks and spas/hot tubs. What sets Diamond Spas apart from other manufacturers is their ability to customize. Every bath fixture of spa is designed and built specifically for the client. Your visions become reality when Diamond Spas is part of your project. DSI has the talent and expertise to create artistic, sophisticated, highly durable products for the upscale home.

www.diamondspas.com

| Circle Reader Service #183

Access Floors

10 Specialties



Steelcase

Effectively routing wiring and HVAC systems, access floors are easier to change and more flexible and cost-effective than traditional buildings. Pathways Access Floor installs on top of the concrete slab creating cavities to run wiring and HVAC. Pathways Low-Profile Floor is ideal for renovations of buildings with established ceiling heights. It is 2-1/2-in. high, yet provides 2-in. of clearance to manage communications cabling and power distribution.

www.steelcase.com

| Circle Reader Service #181

Saunas

13 Special construction



Finlandia Sauna Products, Inc.

Finlandia Sauna has manufactured exclusive and authentic saunas since 1964. Finlandia offers precut sauna packages and modular sauna rooms as an affordable luxury that can be included in any remodel or new construction. The company markets four all-clear western softwoods and is the only manufacturer to use 1-in. by 4-in. paneling, instead of the cheaper 1/2-in. by 4-in. material used by others. Finlandia's packages include all room parts, a choice of a Finnish made electric heater, a prehung door with choice of glass, and all necessary accessories.

800-354-3342
www.finlandiasauna.com

| Circle Reader Service #184

Curved Church Pews

12 Furnishings



New Holland Church Furniture

Curved pews are "Round For A Reason"™ and are designed and manufactured by New Holland Church Furniture. Curved pews are designed for maximum seating, curved for efficient use of space, designed to enhance worship, created for community, uniting the family of God. New Holland Church Furniture is a certified member of the Architectural Woodwork Institute (AWI), so you can be assured of the very highest quality. Email nhcw@newhollandwood.com

800-220-1465
www.newhollandwood.com

| Circle Reader Service #182

Elevator Door Facings

14 Conveying systems



Gage Corporation, Intl.

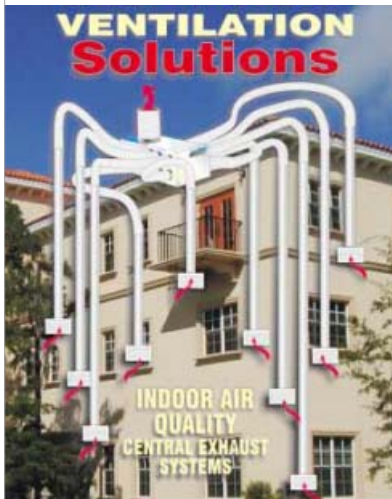
ECO-NOR offers six distinctive pre-decorated elevator door facings in 18-ga. stainless steel. ECO-NOR is competitively priced, making it an ideal choice for remodeling or budget sensitive projects. Finishes of all designs complement existing or new #4 stainless steel frames. ECO-NOR offers prompt lead times without the need for prior specification. ECO-NOR is a product of Northern Engraving Corporation. Fax number 608-269-7622 Email gage@centurytel.net

800-786-4243
www.eco-nor.com

| Circle Reader Service #185

Exhaust Ventilation Systems

15 Mechanical



American Aldes Ventilation Corp.

American ALDES manufactures central bath and IAQ exhaust ventilation systems for multifamily housing. Similar to the popular ALDES single-family systems, the energy efficient MPV multiport ventilators prevent mold growth caused by activity based indoor humidity levels. The silent and low continuous background ventilation rates are controlled by the MPV Multi's self-regulating air duct system. This guarantees precise IAQ control and energy efficiency for the owner. Installers appreciate the pre-calibrated and self-balancing feature of the MPV system.

800-255-7749
www.americanaldes.com

| Circle Reader Service #186

Innovative Lighting

16 Electrical



Engineered Lighting Products

The "Hole In The Wall" goes small! The newest member of the "HITW" family has a 4-in. by 5-5/8-in. aperture opening. The durable GRG cast housing once installed becomes one with the wall appearing as a custom formed drywall 'light niche.' Available in either LED or low wattage incandescent light sources.

626-579-0943
www.elplighting.com

| Circle Reader Service #189

Arts & Crafts Fixtures

16 Electrical



Architectural Area Lighting

Style and grace meet efficiency and versatility in these round and square fixtures. Hoods in stainless steel, copper, opal and mica acrylic, and painted aluminum. Fax number 714-994-0522

714-994-2700
www.aal.net
AIA booth 3655

| Circle Reader Service #187

Vapor-Tight Lighting Fixtures

16 Electrical



Luraline Products Company

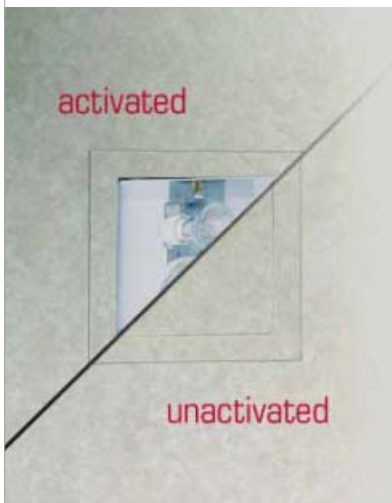
Luraline/VANGUARD SERIES: The Vanguard series of vapor-tight lighting fixtures is ideal for industrial styled interiors and exterior settings requiring extra protection, such as parking lots, walkways, and recreational, educational, institutional and health care applications. Suitable for use in wet locations, all models are fully gasketed to seal against moisture and exposure to the elements, including dust, fumes and insects. The Vanguard series is available in pendant, ceiling and wall-mount configurations, with choice of incandescent, compact fluorescent or H.I.D. lamping.

800-940-6588
www.luraline.com

| Circle Reader Service #190

Customized Emergency Lighting

16 Electrical



Concealite Life Safety Products

Artistry and architecture merge when designers incorporate Concealite's 5000 Series into their interiors. The 5000 Series can be customized to fit any interior color or texture. Whether your walls are painted with hard-to-match color, unique wallpaper, rustic wood grains, or a combination, Concealite can customize the frame and panel of each 5000 emergency light to blend into its surroundings and complete the look of your space while still meeting all of the emergency lighting requirements. For more information, please visit their Web site.

www.concealite.com
AIA booth 1988

| Circle Reader Service #188

Sign Lights

16 Electrical



Primelite Manufacturing Corp.

These all-aluminum construction Sign Lights can be used indoors or outdoors. Sign Lights are available in incandescent or in energy efficient lighting like Metal Halide, High Pressure Sodium or high wattage PL's. Choose from 22 standard colors or select custom color matching. Arms for the Sign Lights can be fabricated to the customer's own unique design. In addition to Sign Lighting, Primelite carries a full line of prismatic fixtures, cast posts, wood posts, postlights, Cast Aluminum Lanterns, garden lights, street lighting, faux alabaster lighting, Hi hat extenders and blank up kits.

800-327-7583
Primelite-mfg.com

| Circle Reader Service #191



ENR 2005 TOP FIRM **LEADERS FORUM**

Constructing in the 21st Century:
New Ways to Think, New Ways to Build

Renaissance Chicago Hotel
Chicago, June 14-15, 2005

Overview:

Top-level executives from the industry's leading contractors, design firms, equipment and building product manufacturers, and building and facility owners will gather to discuss trends, innovations and business issues. The Forum's inter-active panel discussions and networking sessions will allow and encourage attendee participation.

Sponsors:



**HOULIHAN LOKEY
HOWARD & ZUKIN**

LIMBACH
Since 1901 Consistently Exceeding Expectations

Forum Sessions and Participants include:

Keynote Speaker:

- **Barry McCaffrey, Federal Services, HNTB** (Invited)

Program Metamanagement: The Next Level

A new breed of program management-on-steroids -- ENR calls it program metamanagement -- is delivering more predictable costs, improved consistency of design quality, increased speed, greater agility to enable project and process improvements across the board, and more. Five Top Firm Leaders share real examples of program metamanagement in action.

Panelists:

- **Charles Bacon, III**, President and CEO, **Limbach Facility Services LLC**
- **Mike Bellaman**, Global Director, **Bovis Lend Lease**
- **Charles B. Thomsen**, Chairman, **3D/I**
- **Barbara White Bryson**, Associate V.P. of Facilities, Engineering and Planning, **Rice University**
- **Robert C. Workman**, Chairman, **BSW International Inc.**

Productivity Improvement:

It's Here, It's Real, and It's Up To You

There now exist hard, replicable productivity-enhancing procedures that you can utilize to improve the productivity and profit of your firm. Find out what some Top Firm Leaders are doing to shatter the myth that construction cannot be "predictably productive."

Panelists:

- **Harvey M. Bernstein**, V.P., Industry Analytics & Alliances, **McGraw-Hill Construction**
- **Greg Clum**, Labor Relations Manager, **Black and Veatch**
- **Brian Foster**, Revay and Associates Limited
- **Mike Kenig**, Vice Chairman, **Holder Construction**

The People Side:

connecting people_projects_products

McGraw Hill
CONSTRUCTION

Dodge
Sweets
Architectural Record
ENR
Regional Publications

Find us online at www.construction.com

Your AEC Workforce Facing Technology-Driven Change

BIM, web-based project collaboration software, ubiquitous mobile communication, and other technology-driven change are yielding profound shifts in the way people relate to each other within our firms and across our industry. Learn how to help everyone involved cope with the transition to the future.

Panelists:

- **Tom Garrett**, CIO, **Brasfield & Gorrie LLC**
- **Ben Fergus**, CIO, **CH2M-Hill**
- **Michelle Kantor**, **MFK Consulting**

Winning Teams!

These panelists' companies are among those that moved up the most in their respective ENR "Top" list over the past two years. What did they do to achieve this kind of upward mobility? Be part of this open conversation with Top Firm Leaders.

Panelists:

- **Tom Wening**, Executive Vice President, **H.J. Russell & Co.**
- **Glenn De Stigter**, Chairman, President and CEO, **The Weitz Company**

Closing Speaker:

- To be announced

Networking Reception - 5:00 to 6:30 PM, Tuesday, June 14th

Networking Lunch (Optional) - 12:00, Wednesday, June 15th

For more information or to register, visit the Forum website.
www.construction.com/event/

Call: 212-904-4634 or E-mail: chuck_pinyan@mcgraw-hill.com

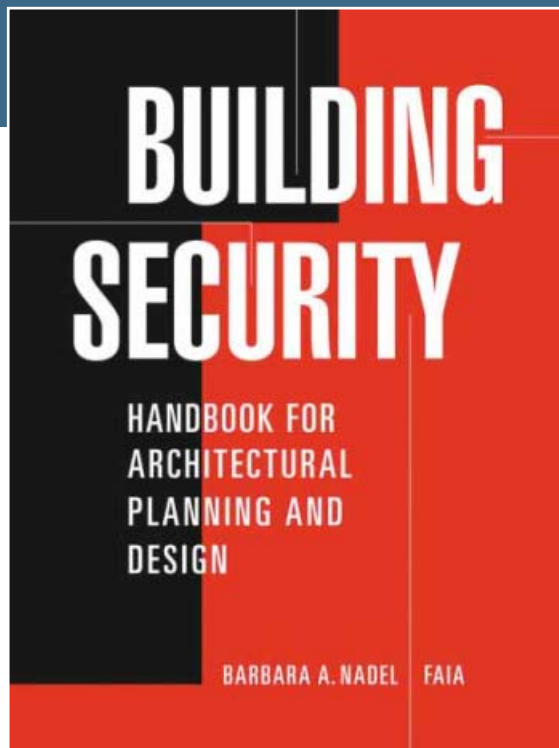
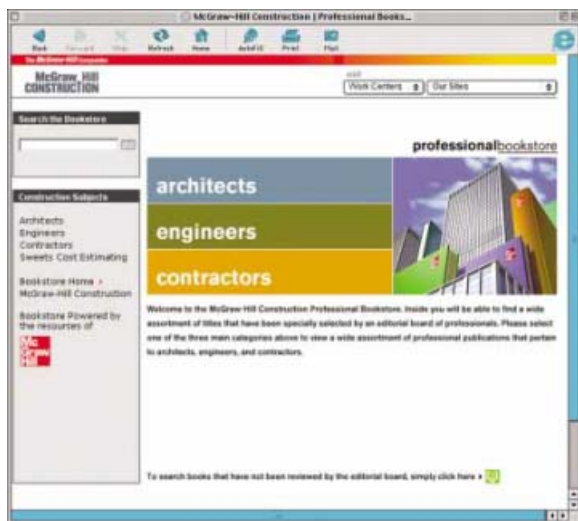
Available through the McGraw-Hill Construction Bookstore

Building Security Handbook for Architectural Planning and Design Barbara A. Nadel, FAIA

"This book is a must-read for architects, landlords, security consultants, and anyone else interested in ensuring security and averting catastrophic loss"

—Bernard B. Kerik, Former Police Commissioner of NYC

Whether planning for new construction, renovations, or security upgrades of existing facilities, this is THE definitive 21st Century reference on security, design, technology, building operations, and disaster planning. Generously illustrated with 600 photos, drawings, tables, and checklists, **Building Security** addresses protection from terrorism, natural disasters, chemical and biological agents, crime, and workplace violence.



2004 • ISBN: 0-07-141171-2
672 pages • 600 illustrations • Hardcover

McGraw-Hill Construction
Bookstore Price: \$71.96

TO ORDER OR TO SEE OTHER GREAT TITLES, VISIT
www.books.construction.com

www.books.construction.com

At **www.books.construction.com**, you can choose from a wide selection of titles in architecture, construction, and engineering – from the brightest, most respected minds in the field. Our comprehensive online bookstore offers a special **20% discount, free shipping**, unparalleled customer service, and a host of other great features.

construction success starts with the
construction.com bookstore

DDJ21

Dodge
Sweets
McGraw Hill
CONSTRUCTION
Architectural Record
ENR
Regional Publications

Find us online at **www.construction.com**

connecting people_projects_products

The McGraw-Hill Companies

TlFe800H

POSITIONS AVAILABLE

WWW.SMPSCAREERCENTER.ORG

Find marketing/BD professionals with A/E/C exper.
Call 800-292-7677, ext. 231.

NETWORK ADMINISTRATOR

Dsgn & maintain ntwk sys for architecture firm.
Req'd: MS in CS, 1 yr. exp. Resumes: Michael Kang
Architect PLLC, 37-01 Main Street, Ste 3A, Flushing,
NY 11354. Attn: M. Kang.

ARCHITECTURAL DRAFTER

Cal-City Construction. Must have B.S. in
Architectural Engg or related field. Send resume: Cal-
City Construction, Attn: Michelle Son, 16300
Downey Ave, Paramount, CA, 90723.

ARCHITECT LEV I

Wanted by NY based construction firm in
Woodside, NY. Must have a Bachelor Degree in
Architect or Architectural Engineering. Must speak,
read and write Korean. Apply to: Bando
Construction, Inc., 39-39 63rd St., Woodside, NY
11377.

STAFF ARCHITECT

For Miami Architecture firm. Under the supervision
of licensed Architect will research, plan, design &
administer building projects for healthcare facilities
applying knowledge of designs, construction proce-
dures, zoning & building materials. Administer
construction contracts. Conduct periodic on site vis-

its to monitor compliance with plans. Deg & exp.
req'd. Send resume to: Bermello-Ajamil & Partners,
2601 S. Bayshore Dr., Miami, FL 33133.

ARCHITECTURAL CONSULTANT

Utilizing Photoshop, 3D Max & Autocad. Resume to:
Lee & Sakahara Architects AIA, Inc., 16842 Von
Karman Ave, #300, Irvine, CA 92606 or Fax (949)
261-1144

INTERIOR DESIGNER

For commercial construction. Resume to: The Retail
Element, 553 S. Oak Knoll, Pasadena, CA 91101 or
fax 626-229-1904.

PROJECT ARCHITECT

Assist the Principal Architect in preparing informa-
tion regarding design, structure specifications,
materials, estimated costs, and construction time for
both commercial and residential projects. Send
resume to: IRM Architects & Construction Managers,
Attn: Hugo Bazan, 4308 Ellers Avenue, Austin, TX
78751.

ARCHITECT - (FAR ROCKAWAY)

Draw site plans & design in artistic & structural
manner for new & existing residential & commercial
structures such as office complexes, school in accord-
ance with zoning regulations & building codes/
Also must be able to create plumbing drawings and
risers. Be able to use photoshop 3D images. Have
knowledge of estimating. 2 yrs. Experience, B. of
architecture, 40 hrs/wk, Mon - Fri 9am - 5pm, Fax
resume to: W. Gorman @ (212) 725-3690.

ARCHITECTS - ALL LEVELS / ALL SPECIALTIES
JR Walters Resources, Inc. specializing in the place-
ment of technical professionals in the A&E field.
Openings nationwide. Address: P.O. Box 617, St.
Joseph, MI 49085 Tel: 269-925-3940 E-mail:
jrwawa@jrwalters.com VISIT our web site at www.
jrwalters.com

BUSINESS OPPORTUNITY

21-YEAR ARCHITECTURAL FIRM

With on-going "80% repeat clientele" for past 15
years. Owners nearing retirement & seeking
smooth transition for its educational, public,
industrial, institutional clientele. P.O. Box 5358,
Scottsdale, AZ 85261-5358.

SPECIAL SERVICES

Q-CAD DRAFTING SERVICES
Hand-Drafted into CAD

\$80
Per Sheet
(E-Size)

BEFORE
(Hardcopy)

AFTER
(CAD File)

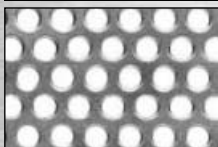
800-700-3305 | www.Q-CAD.com

archrecord.construction.com

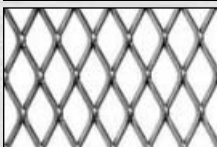
Same Day Stock Shipment

Hole Products

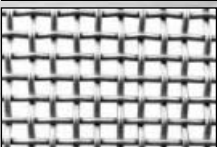
Perforated Metal



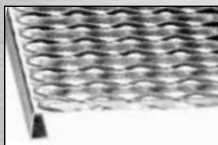
Expanded Metal



Wire Cloth



Grip Strut® Grating



Fiberglass Grating



Bar Grating



Custom Fabrication to Your Specs!

Complete **Hole Product**
inventories are available from
Service Centers coast to coast
in a variety of styles, sizes
and materials.

**The
Hole
Story**

ISO 9001:2000
Certified

Our website has complete
product specifications, load
tables, drawings, photographs
and more.
www.mcnichols.com

1-800-237-3820

McNICHOLS CO.

e-mail: sales@mcnichols.com
www.mcnichols.com



CONTINUING EDUCATION FOR ARCHITECTS



POSITIVE PRESSURE CLASS

AIA Registered Provider

On-Site Training Available

One (1) Hour Long Class =
AIA/CES Learning Unit Hour

1.800.283.9988



www.pemko.com



Corporate Office
P.O. Box 3780
Ventura, CA 93006

AIA Show - Las Vegas, NV
Booth #4859
PCBC Show - San Francisco, CA
Booth #2434

Contact **Anjella (x266)** today
for more information or to
schedule training classes!

ADVERTISERS INDEX

Bold: Indicates Page Number. *Italic:* Indicates Reader Service Number. **S:** Indicates Sweets Marketplace Participation

379	342	3form 3-form.com	67	45	Colorker colorker.com	355	316	S	Inclinator Co of America inclinator.com
66	44	Academy of Art University academyart.edu	325	139	Cooper Lighting cooperlighting.com	26-27	13	S	InterEdge Technologies firesafe-glass.com
304	130	Adams Rite Manufacturing Co adamsrite.com	373	333	S Copper Sales Inc unaclad.com	351	311		International Code Council iccsafe.org
352	312	S Advance Lifts advancelifts.com	45	27	S Cornell Iron Works cornelliron.com	380	345		International Code Council iccsafe.org
338, 350		AIA aia.org	344	305	S CPI International cpidaylighting.com	378	338	S	Invisible Structures Inc invisiblestructures.com
372		AIA aia.org	256	113	S CR Laurence Co Inc crlaurence.com	134	365		Invision/J&J Industries invisioncarpet.com
114	85	S Alcan Composites USA Inc alucobond.com	255	112	CSi Metal Dek Group metalde.com	371	332		Italian Trade Commission marblefromitaly.com
148	95	S Alcoa Architectural Products alcoacladdingsystems.com	257	114	Custom Building Products custombuildingproducts.com	332	363, 364		JJI Lighting Group jjilightinggroup.com
333	142	Alkco alkco.com	90	66	Dacor dacor.com	333	142		JJI Lighting Group jjilightinggroup.com
349	310	APA: The Engineered Wood Assn glulambeams.org	100	74	S DaVinci Roofscapes davinciroofscapes.com	378	339		Joel Berman Glass Studios jbermanglass.com
352	313	Arakawa Hanging Systems arakawagrip.com	346	307	Dawson Doors dawsondoors.com	65	43		Johnson Controls johnsoncontrols.com
330	141	Architectural Area Lighting aal.net	cov3		Dell dell.com	258	115	S	Johnsonite johnsonite.com
335	144	Architectural Details arch-details.com	335	146	Delray Lighting Incorporated delraylighting.com	199	105	S	Julius Blum & Co Inc juliusblum.com
353	314	S Architectural Precast Association archprecast.org	376	336	Doug Mockett & Company Inc mockett.com	106	79	S	Kalwall kalwall.com
40		Architectural Record archrecord.construction.com	381	347	Doug Mockett & Company Inc mockett.com	61		S	Kawneer Company Inc kawneer.com
31	16	Architectural Woodwork Institute awinet.org	343	304	S Dryvit dryvit.com	382	348		Kenyon kenyonappliances.com
98	72	Associated Builders & Contractors Inc abc.org	89	65	S DuPont Tyvek tyvek.com	198	104		Kepco+ Incorporated kepcoplus.com
332	363	Ardee ardeelighting.com	112B	357	S E Dillon & Company edillon.com	85	61		Kim Lighting kimlighting.com
12		Autodesk autodesk.com	139	91	S Eagle Windows & Doors eaglewindow.com	364	325	S	Kingsley-Bate kingsleybate.com
363	324	Autodesys formz.com	72	50	S Easi-Set Industries easiset.com	201	107	S	Knauf knauffiberglass.com
32	17	Avonite avonite.com	150	96	S EFCO Corporation efcocrp.com	385	351		Koreteck koreteck.com
339	301	Axiom axiumae.com	41-43	25	S Eldorado Stone eldoradostone.com	136, 358	90, 319		KraftMaid Cabinetry kraftmaid.com
33	18	B-K Lighting bklighting.com	56, 57	35, 36	S Ellison Bronze ellison-bronze.com	62	40	S	Kusser Aicha Graniteworks USA kusserUSA.com
59	149	BEGA bega-us.com	340	302	Energy Steel Products energysteelproducts.com	104	77		Kwalu kwalu.com
305	131	S Belden Brick Company, The beldenbrick.com	102	75	Engineered Lighting Products eplighting.com	112G	361	S	Lafarge North America lafargenorthamerica.com
70	48	S Bendheim bendheim.com	357	318	S Englert englertinc.com	332	364		LAM lamlighting.com
113	84	Blanco blancoamerica.com	35	20	S EPIC Metals Corporation epicmetals.com	64	42	S	landscapeforms landscapeforms.com
368		BNI Building News bnibooks.com	37	22	S FabriTec Structures fabritecstructures.com	359	320		@Last Software sketchup.com
231	109	Boyd Lighting lightspacebyboyd.com	127	88	S Ferrari Textiles Corporation softis-textiles.com	375	335	S	Laticrete International Inc laticrete.com
47	29	S BR111 br111.com	155	97	S Follansbee Steel follansbeeroofing.com	200	106		Lehigh Portland Cement Company lehighcement.com
96	70	S Bradley Corporation bradleycorp.com	318-319	137	Gardco Lighting sitelighting.com	334	143		LightingUniverse.com lightinguniverse.com
307	133	Brew Express brewexpress.com	129	89	S Ginger motiv.us	314	136		Lightoller lightoller.com
92	67	Building Systems Design bsdsoftlink.com	184	102	Graboplan graboplan.us	323	138		LiteTouch litetouch.com
15, 105	38, 78	S C/S Group c-sgroup.com	60	39	Greenscreen greenscreen.com	10-11	6		Loewen loewen.com
23	11	S Cambridge Architectural Mesh architecturalmesh.com	75	53	Gres de Aragon gresaragon.com	185	103	S	Lonseal lonseal.com
80	58	S Canterbury International canterburyintl.com	380	344	S Hafele hafeleonline.com	93	68		Lucifer Lighting Company luciferlighting.com
78	56	S Carl Stahl Décor Cable decorable.com	369	330	Harmonic Environments harmonicenvironments.com	329	140		Lumec & Lumec Scheder seegreatshapes1.com
112E	359	Carvart carvart.com	cov4	355	S Haworth haworth.com	71	49	S	Lutron lutron.com
376		Cascade Coil Drapery cascadecoil.com	46	28	HDR hdrinc.com	312-313	135	S	Lutron lutron.com
259	116	Cedar Shake & Shingle Bureau cedarbureau.org	267	119	S High Concrete Structures Inc highconcrete.com	382	349	S	Major Industries majorskylights.com
39	24	S Ceilings Plus ceilingsplus.com	381	346	Historical Arts & Casting Inc historicalarts.com	74	52		Manning Lighting manningltg.com
48	30	S CENTRIA Architectural Systems centria.com	348	309	S Huntco huntco.com	174	100		Marble Institute of America Inc, The marble-institute.com
76	54	S CertainTeed certainteed.com	cov2-1	147	S Hunter Douglas Architectural Prods hunterdouglas.com	94	69		Marshfield DoorSystems marshfielddoors.com
342	303	Chicago Architecture Foundation architecture.org	175	101	HY-Lite hy-lite.com	20-21	9		Marvin Windows & Doors marvin.com
306	132	S CHMI chmiarch.com	160	98	IGT Glass glastroesch.ch	370	331		Marvin Windows & Doors marvin.com
24	12	CNA/Victor O Schinnerer & Co Inc schinnerer.com	283	128	S illbruck illbruck-archprod.com	87	63	S	MBCI mbci.com

For additional information on these advertisers, circle corresponding number on Reader Service Card, or go to archrecord.construction.com/products.

To reserve your 2005 Sweets call 1-800-442-2258

112D, 384			McGraw-Hill Construction construction.com
393, 394			McGraw-Hill Construction construction.com
395	352	●	McNichols Co mcnichols.com
365	326	●	Mechoshade Systems Inc mechoshade.com
88	64		Metal Construction Association metalconstruction.org
269	120		Mitsubishi Chemical America Inc alpolc-usa.com
377	337		Modern Fan Co, The modernfan.com
233	110	●	Monier Lifetile monierlifetile.com
112	83	●	Mortar Net mortarnet.com
232			Móz Metal Laminates mozdesigns.com
370			National Building Museum nbm.org
260	117	●	National Gypsum Company nationalgypsum.com
230	108	●	National Terrazzo & Mosaic Assn ntma.com
368	329	●	Nixalite of America nixalite.com
112C	358		NJ SmartStart Buildings njsmartstartbuildings.com
16-17	7	●	Oldcastle Glass oldcastleglass.com
38	23		Olympic Panel Products olympicpanelproducts.com
282	127	●	Overly Door Company overly.com
6-7, 265	4, 118	●	Owens Corning owenscorning.com
265	118	●	Owens Corning owenscorning.com
383	350	●	P&P Artec artec-rail.com
356	317	●	Pawling pawling.com
292	129	●	Pella Windows & Doors pella.com
293-297	367	●	Pella Windows & Doors pella.com
395	353	●	Pemko pemko.com
279	125	●	Petersen Aluminum pac-clad.com
112A	356	●	PGT Industries pgtindustries.com
277	124	●	Pilkington pilkington.com
4	2		Pine Hall Brick Co Inc pinehallbrick.com
280	126	●	Pittsburgh Corning pittsburghcorning.com
97	71	●	Porcelanosa porcelanosa-usa.com
73	51		Powder Coating Institute, The powdercoating.org/101
8-9	5	●	PPG ppgglass.com
141	92	●	PPG (Pittsburgh Paints) pittsburghpaints.com
374	334		Promosedia promosedia.it
310-311	134		Prudential Lighting prulite.com
58	37		Quilite Noise Barriers quilite.com
379	341		Rafael Vinoly Architects rvatr.com
379	340	●	Rakks rakks.com
275	123		RHEINZINK rhein-zink.com
345	306		Robinson Brick Company robinsonbrick.com
107	80		Roca rocatile.com
161	99		Rocky Mountain Hardware rockymountainhardware.com
69	47		ROHL rohlhome.com
336	300	●	SAFTI/O'Keefes Inc safti.com
103	76		Samsung Staron getstaron.com

82	60		Samsung-Digital Info Tech Div samsungproav.com
63	41	●	Schindler us.schindler.com
234	111	●	Schott Corporation us.schott.com
22	10	●	Schott Corporation us.schott.com
68	46		Schuler Shook schulershook.com
77	55	●	Sherwin-Williams sherwin-williams.com
124	87	●	Simpson Strong-Tie Company Inc simpsonstrongtie.com
362	323		Skyline Design skydesign.com
379	343		Slip Tech sliptech.com
99	73	●	Sloan Valve Company sloanvalve.com
284-291	366	●	Sloan Valve Company sloanvalve.com
354	315	●	Smoke Guard smokeguard.com
54, 55	33, 34		Steelcase steelcase.com
347	308		Steelscape steelscape-inc.com
145	94	●	Sto Corp stocorp.com
366	327		Stone River Bronze stoneriverbronze.com
360	321		Sun Valley Bronze svbronze.com
143	93		Sunbrella brand fabrics sunbrella.com
298-303			Sweets sweets.construction.com
361	322	●	Taiyo Birdair taiyobirdair.com
79	57		TAMKO Roofing Products tamarite.com
5	3		Technical Glass Products tireglass.com
308	148		TEKA Illumination teka-illumination.com
111	82		Thermador thermador.com
49	31		Tile of Spain spaintiles.info
81	59	●	Timely timelyframes.com
112H	362		Tindall Corp tindallcorp.com
270	121	●	Trespa trespanorthamerica.com
367	328		US Green Building Council usgbc.org
52, 53		●	USG Corporation usg.com
50	32		Valli & Valli valliavalli.com
271	122		VERSA-LOK versa-lok.com
44	26	●	Viking Range Corporation vikingrange.com
108	81	●	Viracon viracon.com
122	86		Vistawall Architectural Products vistawall.com
32A-D			VT Industries vtindustries.com
28-29	14		Vulcraft, A Division of Nucor Corp nucor.com
335	145		WAC Lighting wacighting.com
36	21		Walker Zanger walkerzanger.com
112F	360	●	Wasco Skylights wasco1.com
34	19	●	Wausau Window and Wall Systems wausauwindow.com
2-3	1		Weather Shield Windows & Doors weathershield.com
86	62		Westcrowns Inc westcrowns.com
398	354		Western Red Cedar Lumber Assoc realcedar.org
18-19	8		Williams Scotsman williamsscotsmen.com
30	15	●	YKK AP America Inc ykkap.com

EXECUTIVE OFFICES

James H. McGraw, IV, Group Publisher
(212) 904-4048 Fax: (212) 904-3695
jay_mcgraw@mcgraw-hill.com

Laura Viscusi, VP, Associate Publisher
(212) 904-2518 Fax: (212) 904-2791
lviscusi@mcgraw-hill.com

Assistant: Pina Del Genio
(212) 904-6791 Fax: (212) 904-2791
pina_delgenio@mcgraw-hill.com

ONLINE SALES

Paul Cannella, Director
(312) 233-7499 Fax: (312) 233-7490
paul_cannella@mcgraw-hill.com

CLASSIFIED SALES

Diane Soister
(212) 904-2021 Fax: (212) 904-2074
diane_soister@mcgraw-hill.com

NORTHEAST / MID-ATLANTIC

Janet Kennedy (CT, MA, ME, NH, NJ, NY, PA, RI, VT)
(212) 904-3603 Fax: (212) 904-2791
janet_kennedy@mcgraw-hill.com

Joe Sosnowski (NJ, PA)
(610) 278-7829 Fax: (610) 278-0936
joseph_sosnowski@mcgraw-hill.com

MIDWEST

Mike Gilbert (AR, IL, IA, MN, MO, OH, W.PA, WV)
(312) 233-7401 Fax: (312) 233-7403
mike_gilbert@mcgraw-hill.com

Lisa Nelson (IL, IN, KS, MI, ND, NE, OK, SD, TX, WI)
(312) 233-7402 Fax: (312) 233-7403
lisa_nelson@mcgraw-hill.com

SOUTHEAST / MID-ATLANTIC

Susan Shepherd
(404) 843-4770 Fax: (404) 252-4056
sshepherd@mcgraw-hill.com

WEST (AZ, CA, CO, NM, NV)

Bill Hague
(253) 858-7575 Fax: (253) 858-7576
(760) 340-5575 Fax: (760) 340-0439
bill_hague@mcgraw-hill.com

WEST (ID, MT, OR, S.CA, UT, WA, WY)

Bill Madden
(503) 224-3799 Fax: (503) 224-3899
bill_madden@mcgraw-hill.com

INTERNATIONAL

Glen Wither (Canada)
(888) 836-6623 Fax: (866) 212-2213
glen_wither@mcgraw-hill.com

Martin Druke (Germany)
(49) 202-27169-12 Fax: (49) 202-27169-20
druke@intermediapartners.de

Ferruccio Silvera (Italy)
(39) 022-846716 Fax: (39) 022-893849
ferruccio@silvera.it

Katsuhiro Ishii (Japan)
(03) 5691-3335 Fax: (03) 5691-3336
amskatsu@dream.com

Young-Seoh Chin (Korea)
(822) 481-3411/3 Fax: (822) 481-3414

PRODUCT NEWS SPOTLIGHTS / POSTCARD SERVICE

Deidre Allen
(212) 904-2010 Fax: (609) 426-7136
deidre_allen@mcgraw-hill.com

SUBSCRIBER SERVICE

(888) 867-6395 (USA only)
(609) 426-7046 Fax: (609) 426-7087
p64cs@mcgraw-hill.com

BACK ISSUES

(212) 904-4635
phyllis_moody@mcgraw-hill.com

REPRINT MANAGEMENT SERVICES

(800) 360-5549 x129
architecturalrecord@reprintbuyer.com

For additional information on these advertisers, circle corresponding number on Reader Service Card, or go to archrecord.construction.com/products.

To reserve your 2005 Sweets call 1-800-442-2258



CEDAR.

DOESN'T YOUR NEXT PROJECT DESERVE IT?

WHAT SEPARATES STUNNING HOMES FROM THOSE THAT ARE SIMPLY NICE? IMPECCABLE CRAFTSMANSHIP AND THE FINEST MATERIALS. THAT'S WHY SO MANY DISCRIMINATING ARCHITECTS CHOOSE WESTERN RED CEDAR. NOTHING MATCHES THE ELEGANCE AND WARMTH OF CEDAR. IT CONVEYS A MESSAGE OF SOPHISTICATION AND STYLE THAT SETS A HOME APART.

WHEN ONLY THE BEST WILL DO, CHOOSE WESTERN RED CEDAR. YOU AND YOUR PROJECTS DESERVE IT.

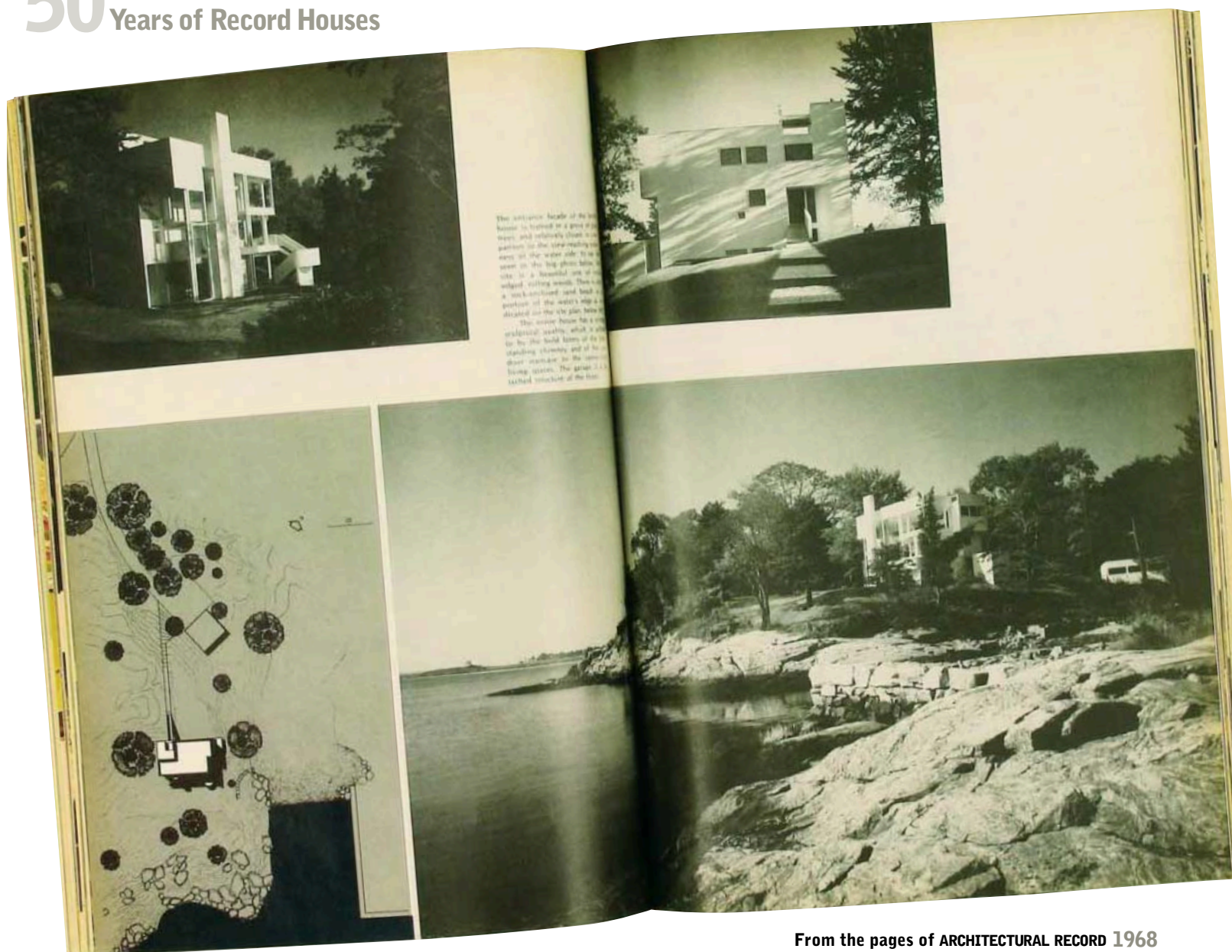


1-866-778-9096

FOR MORE INFORMATION ON CEDAR, VISIT
REALCEDAR.ORG

CIRCLE 354 ON READER SERVICE CARD OR GO
TO ARCHRECORD.CONSTRUCTION.COM/PRODUCTS/

TlFe800H



From the pages of **ARCHITECTURAL RECORD** 1968

Meier's Milestone Moment

By William Weathersby, Jr.

Set on the craggy coast of Long Island Sound in Darien, Connecticut, Richard Meier's Smith House is a Modernist lighthouse of transparent geometry. Critic Kenneth Frampton called it "a panoramic belvedere overlooking the rocky shoreline," a work of "neopurist" architecture that harked back to the best of Le Corbusier. One of Meier's first major residential projects, the house also represented a turning point in his career.

When he won the commission for it in 1965, the 31-year-old Meier had been running his own firm for two years after apprenticing in the studio of Marcel Breuer. "The Smith House was a seminal project for me," Meier acknowledges today. "It allowed me to articulate some ideas I was starting to pursue, such as the balance between public and private space."

Designed as a weekend retreat for New Yorkers Carole and Fred I. Smith and their two young sons, the house capitalizes on its dramatic 1.5-acre site. Beyond a dense cluster of evergreens, the land clears and rises to the center of the site, then drops sharply to the rugged shoreline and a small, sandy cove. The spatial organization of the house hinges on the program-

PHOTOGRAPHY: © SCOTT FRANCES/ESTO (BOTTOM)





This page: A later addition to the west extended over a bathhouse (to right in photo above). Meier also designed the desk (below).

Previous page: The house embraced its waterfront setting in 1968 (top), and is now shaded by towering trees.



(continued from previous page) matic separation between public and private areas. From the front walkway, visitors approach a mostly opaque white wood facade before crossing a ramp and entering on the house's second level to discover what Meier calls a "180-degree explosion" of light and space. The living room, dining area, and study embrace the waterfront views, pin-wheeling in a three-level enclosure of glass on three sides. The family's private quarters, meanwhile, are stacked to hug the street-facing facade of the 2,800-square-foot building.

Elements that would become Meier signatures are present as well: the pristine white exterior, expanses of plate glass framed by finely proportioned piers and mullions, and minimal interiors creating intersecting volumes. When the Smith House was published as the cover story of *Record Houses* in May 1968, the editors noted that "design impact is produced by the simplest means, with no frills and a remarkable absence of most current architectural clichés."

Soon after the house was completed, the Smiths divorced. When Carole later married Herrick Littlefield, the family decided to make Darien their full-time residence, and Meier was enlisted to expand the house. Completed in 1973, the 300-square-foot addition enlarged the master suite and added closets and support spaces. Today, the Littlefields again enjoy the house as a weekend place, "where the play of light is incredible year-round," Carole says.

"I believe the success of the house lies in the capacity to absorb and enter into a dialogue with the temporal phenomena of light and context," Meier concurs. "They are, in the end, its material." ■

Work without boundaries. Create without boundaries.



Dell recommends Microsoft® Windows® XP Professional

Adobe® Video Collection Standard

Software, documentation or packaging may vary from retail version.



Say goodbye to creative constraints. Dell™ and Adobe® have joined forces to help provide solutions for your creative needs. Dell Precision™ workstations feature the latest Intel® processors, loads of memory, and PCI Express™ x16 2-D and 3-D graphics cards, making them powerful enough to handle large graphics files quickly and deliver stunning visual effects. Best of all, Adobe has a range of Dell ISV-certified software options, including the new comprehensive Adobe® Video Collection 2.5 Standard. Simple solutions, so all you have to do is be creative.

Limited time offers.

DELL PRECISION™ 470 WORKSTATION

Maximum Performance, Single Processor Workstation

- Intel® Xeon™ Processor (2.80GHz, 1MB Cache, 800MHz FSB)
- Microsoft® Windows® XP Professional
- 1GB Dual-Channel DDR2 SDRAM
- 160GB* (7200 RPM) SATA Hard Drive
- 128MB ATI FireGL™ V3100 PCI Express™ x16 Graphics Card
- 48x CD Burner/DVD Combo Drive
- 3-Yr Economy Service Plan (Ltd. Warranty*, On-Site Service*, Tech Support)

\$1699 Monitor Not Included
Lease as low as **\$45/mo.** (48 pmts*)
E-VALUE Code: 03101-S40516m

Recommended Upgrades:

- 3-Yr Business Essential Service Plan (includes 24x7 On-Site Service*, advanced Tech Support), add \$408
- Dell™ UltraSharp™ 1905FP 19" Flat Panel Display, add \$499

DELL PRECISION™ M20 WORKSTATION

Workstation Performance, Notebook Mobility

- Featuring Intel® Centrino™ Mobile Technology with Intel® Pentium® M Processor 730 (1.60GHz, 2MB L2 Cache, 533MHz FSB); Intel® PRO/Wireless Card
- Microsoft® Windows® XP Professional
- 14.1" SXGA+ Active Matrix Display
- 512MB DDR2 SDRAM
- 60GB* (5400 RPM) Hard Drive
- ATI Mobility™ FireGL™ V3100 64MB PCI Express™ OpenGL Graphics
- 8x DVD-ROM Drive
- 3-Yr Economy Service Plan (Ltd. Warranty*, Tech Support)

\$1999 Monitor Not Included
Lease as low as **\$53/mo.** (48 pmts*)
E-VALUE Code: 03101-S40519m

Recommended Upgrades:

- 80GB* (5400 RPM) Hard Drive, add \$80
- 3-Yr Business Standard Service Plan (includes On-Site Service*, CompleteCare™ Accidental Damage Service*, advanced Tech Support), add \$278

Dell recommends Adobe® software with Dell Precision™ workstations.

Adobe® Video Collection 2.5 Standard

- Package includes Adobe Premiere® Pro 1.5, Adobe After Effects® 6.5 Standard, Adobe Audition™ 1.5, and Adobe Encore™ DVD 1.5.

Special Offer with Purchase of Select Dell Precision™ Workstations*

Only **\$599** Great Value!

Adobe® Photoshop® CS 8.0

Operate with powerful, next-generation digital imaging features that are the professional standard for graphic and web designers, photographers, and video professionals.

\$649 SKU A0176740

Adobe® After Effects® 6.5

Add stunning 2D and 3D compositing, animation, and visual effects as well as motion tracking and stabilization to production.

Standard Version

\$728 SKU A0369456

Adobe® Premiere® Pro 1.5

Revolutionizes non-linear video editing with real-time tools that provide precise management of virtually every aspect of video and audio editing.

\$729 SKU A036041

FREE 3-5 Day Shipping* with purchase of select business systems. Call or go online for eligible systems.



Get more out of creativity. Get more out of now.



CALL 888.691.8169 **CLICK** www.dell.com/SMB/DCCsolutions

toll free

Call: M-F 7a-8p Sat 8a-5p, CT

*Pricing/Availability: Pricing, specifications, availability, and terms of offer may change without notice. Taxes, fees and shipping and handling charges, except for free shipping offer, extra, vary and are not subject to discount. May be combined with other select offers or discounts. U.S. Dell Small Business new purchases only. LIMIT 5 DISCOUNTED OR PROMOTIONAL ITEMS PER CUSTOMER. In case of customers leasing under these promotions, please note that items leased will be subject to applicable end-of-lease options or requirements. Dell cannot be responsible for pricing or other errors, and reserves the right to cancel orders arising from such errors. **Warranty:** For a copy of our Guarantees or Limited Warranties, write Dell USA LP, Attn: Warranties, One Dell Way, Round Rock, Texas 78682. For more information, visit <http://www.dell.com/warranty>. **On-Site Service:** Service may be provided by third-party. Technician will be dispatched, if necessary, following phone-based troubleshooting. Subject to parts availability, geographical restrictions and terms of service contract. Service timing dependent upon time of day call placed to Dell. **Leasing:** Monthly payment based on 48-month Fair Market Value ("FMV") QuickLease and does not include taxes, fees and shipping and handling charges. Your monthly payment may vary, depending on your creditworthiness. QuickLease arranged by Dell Financial Services L.P. ("DFS"), an independent entity, to qualified Small Business customers. Minimum transaction size of \$500 required. At the end of the FMV QuickLease, you can: purchase the equipment for the then FMV, renew the lease or return the equipment to DFS. Please contact your DFS representative for further details. All terms subject to credit approval and availability, and are subject to change without notice. **CompleteCare Accidental Damage Service:** CompleteCare service excludes theft, loss, and damage due to fire or intentional damage. CompleteCare not available in all states. Customer may be required to return unit to Dell. For complete details, visit www.dell.com/servicecontracts. **Hard Drive:** For hard drives, GB means 1 billion bytes; actual capacity varies with preloaded material and operating environment and will be less. **Free 3-5 Day Shipping:** Free shipping is lowest cost (3-5 day) shipping. Valid for U.S. Small Business new purchases only. Available in Continental (except Alaska) U.S. only. To qualify for free shipping, minimum purchase thresholds may apply. Call or go online for details. Systems free shipping offers exclude Software and Peripheral (S&P) orders under \$50. All S&P orders placed by phone, and S&P orders placed in systems configurator pages. S&P free shipping offers apply to S&P orders purchased in the S&P Online store and/or by phone. Free shipping on S&P does not apply to S&P in the online system configuration pages, but can be combined with other offers. **Trademark/Copyright Notices:** Dell, the stylized E logo, E-Value, UltraSharp, CompleteCare and Dell Precision are trademarks of Dell Inc. Intel, Intel Centrino, Intel Xeon and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries. Microsoft and Windows are trademarks or registered trademarks of Microsoft Corporation in the United States and/or other countries. Adobe, the Adobe Logo and Acrobat are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States and/or other countries. ©2005 Dell Inc. All rights reserved.

TLCe800H